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Regulations and Non-Regulatory Revisions to State Implementation Plan: Missouri

Atlantic Environmental Associates, Inc.
Waltham, MA

Prepared for

Environmental Protection Agency
Research Triangle Park, NC

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Regulations and Non-Regulatory Revisions to State Implementation Plan: Missouri

By

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Contract No. 68-02-3565

EPA Project Officer: Willis P. Beal

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U.S ENVIRONMENTAL PROTECTION AGENCY
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16. ABSTRACT

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA-approved State and/or local air pollution control regulations cited by reference in the Federal Register; regulations promulgated as of August 1, 1981 have been included in this document.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979. State and/or local air quality regulations which have not been Federally approved as of August 1, 1981, are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State, or local agencies to enforce such regulations. A summary sheet of the regulatory revisions is provided to give a quick historical assessment of the changes.

The second part of the document contains the text of non-regulatory SIP revisions approved by EPA up to August 1, 1981, excluding notices or certifications of public hearings and technical support data. A complete tabulation of these revisions is also provided.

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PREFACE

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA approved State and/or local air pollution control regulations cited by reference in the Federal Register; all regulations Federally promulgated as of August 1, 1981 have been included.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979.* State and/or local air quality regulations which have not been Federally approved as of August 1, 1981 are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State or local agencies to enforce such regulations.

This document is not intended to provide a tool for determining the enforceability of any given regulation. Rather, it is intended to provide a comprehensive compilation of those regulations which are incorporated by reference into Title 40, Part 52, of the Code of Federal Regulations (CFR). The exclusion of a Federally approved regulation from this document does not diminish the enforceability of the regulation. Similarly, the inclusion of a given regulation in this document does not, in itself, render the regulation enforceable by either the State or EPA.

The regulations have been organized in this document according to the official State/local agency format. However, since State air quality regulations vary widely in their organization, content, and language, a standardized subject index has been added. The index listings consist of both pollutant and activity oriented categories to facilitate usage. For example, regulations which apply to copper smelters may be found under sulfur compounds (50.2), particulate matter process weight (50.1.1), or copper smelters (51.15). Federal regulations pertaining to a given State are not included herein but can be found under Title 40 Code of Federal Regulations, Part 52.

Additionally, a summary sheet of the regulatory revisions is included to provide a quick historical assessment of the changes. These summary sheets contain the date of submittal to EPA of each revision and the Federal Register publication date on which the revision was approved by EPA. A brief description of the regulation which was submitted is also included.

In accordance with the Act, the second part of the document contains non-regulatory SIP revisions approved by EPA up to August 1, 1981. All approved non-regulatory revisions listed under Identification of Plan in the CFR are included except notices or certifications of public hearings, and technical support data. Non-regulatory submittals which have only received EPA approval on selected elements are included in their entirety with an accompanying indication of the status of Federal actions on the non-approved elements. The non-regulatory revisions have been organized in this document according to the date of publication of EPA approval in the Federal Register. For historical completeness, a complete tabulation of these revisions is provided at the beginning of this second section.

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* Regulations and Non-Regulatory Revisions to State Implementation Plan: Missouri, EPA-450/2-80-032, prepared under Contract 68-02-3388, July 31, 1980.

SUMMARY OF
EPA-APPROVED REGULATORY REVISIONS TO STATE OF MISSOURI SIP
BETWEEN JULY 1, 1979 AND JULY 31, 1981

Publication of Approval	Submittal Date	Page	Document Description
03/18/80	08/28/78	45FR17146	Title 10 Division 10, Chapter 6 of the Code of State Regulations which contains air quality standards, definitions, and reference methods. Renumbering revision.
03/18/80	08/28/78	45FR17146	Rule 10 CSR 10-2.200, Rule 10 CSR 10-3.150, and Rule 10 CSR 10-4.190 pertaining to control of SO_2 from indirect heating sources.
03/18/80	08/28/78	45FR17146	Rule 10 CSR 10-2.030, Rule 10 CSR 10-3.050, Rule 10 CSR 10-4.030, and 10 CSR 10-5.050 exempting certain process sources from process weight regulations for particulate matter.
03/18/80	08/28/78	45FR17146	Rule 10 CSR 10-2.190, Rule 10 CSR 10-3.140, Rule 10 CSR 10-4.150, and Rule 10 CSR 10-5.280 concerning New Source Performance Standards.
03/18/80	08/28/78	45FR17146	Rule 10 CSR 10-2.060, Rule 10 CSR 10-3.080, Rule 10 CSR 10-4.060, and Rule 10 CSR 10-5.090 which require continuous opacity monitors for certain sources.
03/18/80	03/01/79	45FR17146	Amended regulation 10 CSR 10-5.110 revising the allowable emission rates of sulfur dioxide from Union Electric's Sioux and Labadie power plants.
03/18/80	03/12/79	45FR17146	Rule 10 CSR 10-3.100 and Rule 10 CSR 10-5.150 establishing revised SO_2 emission limits for primary lead smelters.
04/09/80	07/02/79	45FR24153	Rule 10 CSR 10-2.210, Rule 10 CSR 10-2.240, Rule 10 CSR 10-2.250, Rule 10 CSR 10-2.266, Rule 10 CSR 10-2.220, Rule 10 CSR 10-2.230, and Rule 10 CSR 10-6.020 to attain the national ambient air quality for the Kansas City nonattainment area for ozone.
04/09/80	07/02/79	45FR24153	Rule 10 CSR 10-5.300, Rule 10 CSR 10-5.310, Rule 10 CSR 10-5.330, Rule 10 CSR 10-5.220, Rule 10 CSR 10-5.230, and Rule 10 CSR 10-6.020 for the St. Louis nonattainment area for ozone.
04/09/80	07/02/79	45FR24153	Rule 10 CSR 10-5.290 More Restrictive Emission Limitations for Sulfur Dioxide and Particulate Matter in the South St. Louis area.
05/09/80	04/07/80	45FR30630	Regulations 10 CSR 10-6.020 Definitions, and 10 CSR 10-6.060 Permits Required. Note: Not approved insofar as they pertain to Prevention of Significant Deterioration provisions.
12/24/80	09/05/80	45FR85005	Revisions to Rule 10 CSR 10-2.260 "Control of Petroleum Liquid Storage, Loading and Transfer (Kansas City)" - State of Missouri (Note: Not acting on other changes submitted simultaneously).
04/03/81	09/05/80	46FR20174	New regulations and amendments to existing VOC regulations in St. Louis and Kansas City.
05/22/81	09/05/80	46FR27933	Revision - provisions for start-up, shutdown and malfunction conditions. Included - New Missouri Rule 10 CSR 10-6.050, Start-up, Shutdown and Malfunction Conditions and revisions to Rule 10 CSR 10-6.020. Definitions and amended start-up, shutdown and malfunction provisions in Rule 10 CSR 10-2.030, Rule 10 CSR 10-3.050, Rule 10 CSR 10-3.060, Rule 10 CSR 10-3.080, Rule 10 CSR 10-4.030, Rule 10 CSR 10-4.040, and Rule 10 CSR 10-4.050.
06/12/81	04/07/81	46FR31011	Missouri Regulations 10 CSR 10-6.020 Definitions, and 10 CSR 10-6.060 Permits Required.

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CHAPTER 2 - AIR POLLUTION REGULATIONS FOR THE KANSAS CITY METROPOLITAN AREA

10 CSR 10-2.030 RESTRICTION OF EMISSION OF PARTICULATE MATTER FROM INDUSTRIAL PROCESSES

A. General Provisions

1. This regulation applies to any operation, process, or activity except the burning of fuel for indirect heating in which the products of combustion do not come into direct contact with process materials, except the burning of refuse, except the processing of salvageable material by burning, and except catalytic cracking units at petroleum refineries.

2. Process weight means the total weight of all materials introduced into a source operation, including solid fuels, but excluding liquids and gases used solely as fuels, and excluding air introduced for purposes of combustion. Process weight rate means a rate established as follows:

    a. For continuous or long-run steady-rate source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.

    b. For cyclical or batch source operations, the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such period.

    c. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this subsection, that interpretation which results in the minimum value for allowable emission shall apply.

3. Emission tests relating to this regulation shall be made following the standards in American Society of Mechanical Engineers Power Test Codes PTC-27 dated 1957 and entitled "Determining Dust Concentration in A Gas Stream."

    a. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the executive secretary.

B. Emission Limitations

1. Except as provided for in subsection B (2) and Section C of this Regulation , no person shall cause, suffer, allow, or permit the emission of particulate matter in any one hour from any source in excess of the amount shown in Table 1 for the process weight allocated to each source.

2. The limitations established by subsection B (1) of this Regulation shall not require the reduction of particulate matter concentration, based on the source gas volume, below the concentration specified in Table 2 for such volume; provided that, for the purposes of this subsection B (2) the person responsible for the emission may elect to substitute a volume determined according to the provisions of subsection B (3) of this regulation; and provided further that the burden of showing the source gas volume or othe volume substituted therefore, including all the factors which determine such volume and the methods of determining and computing such such volume, shall be on the person seeking to come within the provisions of this subsection.

3. Any volume of gases passing through and leaving an air pollution abatement operation may be substituted for the source gas volume of the source operation served by such air pollution abatement operation, for the purposes of subsection B (2) of this regulation provided such air pollution abatement operation emits no more than 40 percent of the weight particulate matter entering thereto; and provided further that such substituted volume shall be corrected to standard conditions and to a moisture content no greater than that of any gas stream entering such air pollution abatement operation.

4. Notwithstanding the provisions of subsections B (1) and B (2) of this regulation, no person may cause, allow or permit the emission of particulate matter from any source in a concentration in excess of 0.30 grain per standard cubuc foot of exhaust gas.

C. Exceptions

1. The provisions of subsections B (1), B)2). and B (4) of this regulation shall not apply to existing grey iron jobbing cupolas. For purposes of this regulation, a jobbing cupola is defined as a cupola which has a single melting cycle operated no more than 10 hours in any consecutive 24 hours and no more than 50 hours in any consecutive 7 days.

   a. All existing grey iron jobbing cupolas shall be equipped with gas cleaning devices and so operated as to remove not less than 85% by weight of all the particulate matter in the cupola discharge gases, or release not more than 0.4 grain of particulate matter per standard cubic foot of discharge gas, whichever is more stringent.

b. All gases, vapors, and gas entrained effluents from such cupolas shall be incinerated at a temperature not less than 1200 degrees Farenheit for a period of not less than 0.3 seconds.

TABLE I

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40			
			20,000	10.	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58			
			50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10			
2,500	1.25	4.76	70,000	35.	41.3
3,000	1.50	5.38	80,000	40.	42.5
3,500	1.75	5.96	90,000	45.	43.6
4,000	2.00	6.52	100,000	50.	44.6
5,000	2.50	7.58	120,000	60.	46.3
6,000	3.00	8.56	140,000	70.	47.8
7,000	3.50	9.49	160,000	80.	49.0
8,000	4.00	10.4	200,000	100.	51.2
9,000	4.50	11.2	1,000,000	500.	69.0
10,000	5.00	12.0	2,000,000	1,000	77.6
12,000	6.00	13.6	6,000,000	3,000	92.7

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation $E = 4.10P^{0.67}$, and interpolation and extrapolation of the data for process weight rates in excess of 60,00 lb/hr shall be accomplished by use of the equation: $E = 55.0P^{0.11-40}$, where E = rate of emission in lb/hr and P = process weight rate in tons/hr,

2. The provisions of subsections B (1), B (2), B (3) and B (4) of this regulation shall not apply to the drying process in existing corn wet milling operations. All existing corn wet milling drying processes shall be equipped with gas cleaning devices and so operated as to remove not less than 99.5% by weight of all particulate matter in the dryer discharge gases.

3. This regulation shall not apply to the emissions from : 1. the grinding, crushing, and classifying operations at a rock quarry; or 2. the receiving and shipping of whole grain from or into a railroad or truck transportation source at a grain elevator.

Table II

Source Gas Volume, SCFM[a]	Concentration GR/SCF[b]	Source Gas Volume, SCFM[a]	Concentration GR/SCF[b]
7,000 or less	0.100	140,000	0.038
8,000	0.096	160,000	0.036
9,000	0.092	180,000	0.035
10,000	0.089	200,000	0.034
20,000	0.071	300,000	0.030
30,000	0.062	400,000	0.027
40,000	0.057	500,000	0.025
50,000	0.053	600,000	0.024
60,000	0.050	800,000	0.021
80,000	0.045	1,000,000 or more	0.020
100,000	0.042		
120,000	0.040		

[a] Standard cubic foot per minute
[b] Grain per standard cubic foot

10 CSR 10-2.040 MAXIMUM ALLOWABLE EMISSION OF PARTICULATE MATTER FROM FUEL BURNING EQUIPMENT USED FOR INDIRECT HEATING

A. General Provisions

1. This Regulation applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or hot air or other indirect heating of liquids, gases, or solids and, in the course of doing so, the products of combustion do not come into direct contact with process materials. Fuels include those such as coal, coke, lignite, coke breeze, gas, fuel oil, and wood, but do not include refuse. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

2. The heat content of coal shall be determined according to ASTM method D-271-64 "Laboratory Sampling and Analysis of Coal and Coke" or ASTM method D-2015-66 "Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter". The heat content of oil shall be determined according to ASTM method D-240-64 "Heat of Combustion of Liquid Hydrocarbons by Bomb Calorimeter". The three publications cited in this Subsection A (2) are hereby made part of the Regulation by reference.

3. For purposes of this regulation, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or stacks. The heat input value used shall be the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater. The total heat input of all fuel burning units at a plant or on a premise shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

4. The amount of particulate matter emitted shall be measured according to the American Society of Mechanical Engineers Power Test Codes -- PTC-27 dated 1957 and entitled "Determining Dust Concentration in a Gas Stream," which publication is made a part of this Regulation III by reference. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executive Secretary.

B. Emission Limitations

No person may cause, allow or permit the emission of particulate matter in excess of that specified in the following schedule (see Graph I which is included for illustrative purposes only):

1. 0.60 pounds for each million BTU per hour input if the equipment has a capacity rating of 10 million or less. If the capacity rating of the fuel burning equipment is more than 10 million, the amount of particulate matter which may be emitted for each million BTU input shall decrease as the capacity rating of the fuel burning equipment increases, as follows:

    a. no more than 0.41 pounds for each million BTU input from equipment having a capacity rating of 50 million;

    b. no more than 0.35 pounds for each million BTU input from equipment having a capacity rating of 100 million;

    c. no more than 0.24 pounds for each million BTU input from equipment having a capacity rating of 500 million;

    d. no more than 0.21 pounds for each million BTU input from equipment having a capacity rating of 1,000 million;

    e. no more than 0.17 pounds for each million BTU input from equipment having a capacity rating of 2,000 million;

    f. no more than 0.14 pounds for each million BTU input from equipment having a capacity rating of 5,000 million;

    g. no more than 0.13 pounds for each million BTU input from equipment having a capacity rating of 7,5000 million;

    h. no more than 0.12 pounds for each million BTU input from equipment having a capacity rating of 10,000 million or more.

The amount of particulate matter which may be emitted from fuel burning equipment having an intermediate capacity rating shall be determined either by linear interpolation, or by use of the following equation:

$$\log Y = 0.2330 \log X - 2.0111$$

where X represents each million BTU input, and Y represents the allowable pounds of emissions.

C. Compliance with the provisions of this Regulation III shall not be determined during periods when a new fire is being built, during start-up, change of load, fuel or other operating conditions, during an operational breakdown or other emergency conditions, while air pollution control equipment is being cleaned or repaired, or during sootblowing, but shall be determined during steady-state conditions.

D. The operator of equipment used for indirect heating in any plant may, at his option, elect to eliminate, for the purpose of determining compliance with the provisions of this Regulation III, any fuel burning units normally scheduled to operate less than 1,500 hours per year, provided such units are equipped with air pollution control equipment having a collection efficiency of not less than 85%, in which case such units shall be deemed to comply with the provisions of this Regulation III and in any multiple unit plant shall be treated as a separate installation from other units in such plant. The Executive Secretary may require such operator to submit proposed operating schedules of such units in advance and reports of actual operating schedules for any year.

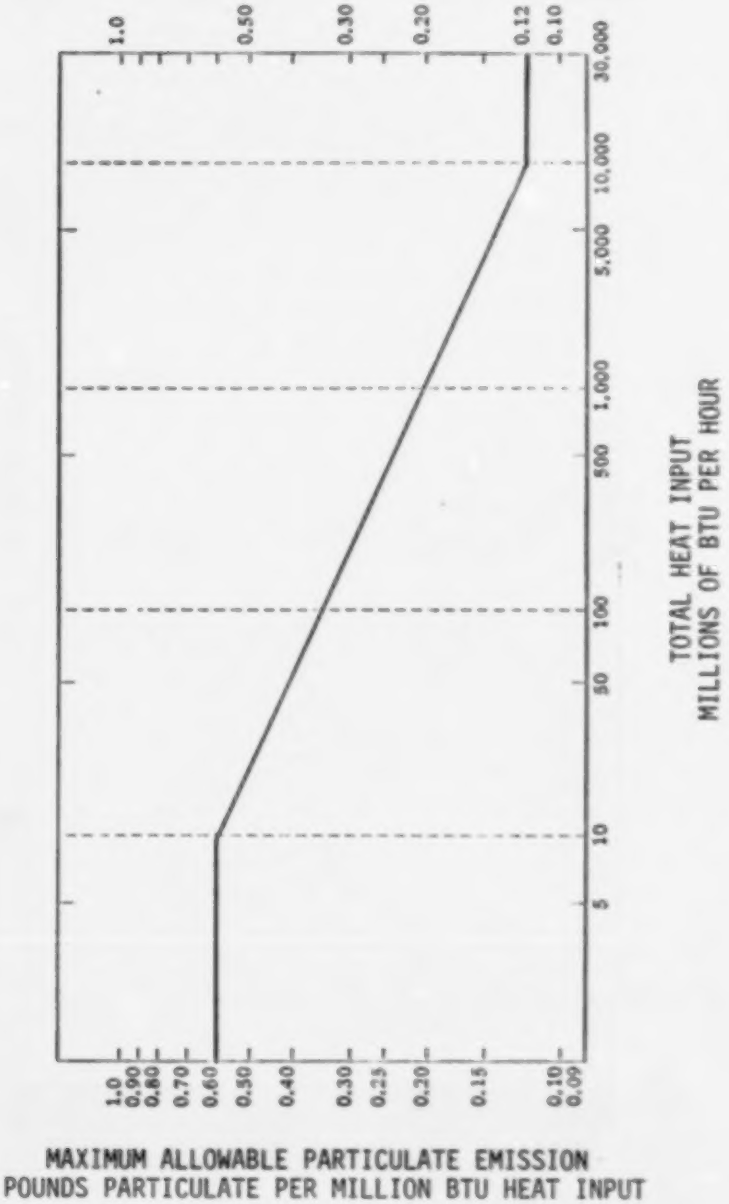
10 CSR 10-2.050 PREVENTING PARTICULATE MATTER FROM BECOMING AIRBORNE

A. No person may cause or permit the handling or transporting or storage of any material in a manner which allows or may allow particulate matter to become airborne in such quantities and concentrations that it remains visible in the ambient air beyond the premises where it originates or that its presence may be found beyond the premises where it originates and that it has particulate matter shown to be larger than forty (40) microns in size. The size of the particulate matter shall be determined by microscopy or any other technique approved by the Executive Secretary and proven to be equally accurate.

B. No person may cause or permit a building or its appurtenances or a road, or a driveway, or an open area to be constructed, used, repaired or demolished without applying all such reasonable measures as may be required or prevent particulate matter from becoming airborne so that it remains visible beyond the premises where it originates or that its presence may be found beyond the premises where it originates. The Executive Secretary may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including but not limited to paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water, and the planting and maintenance of vegetative ground cover. This Section B shall not apply to agricultural operations including tillage, planting, cultivating, or harvesting within a field, the moving of livestock on foot, or the hauling of produce within the confines of a farm.

GRAPH I

LIMITATIONS ON EMISSION OF PARTICULATE MATTER FROM FUEL BURNING INSTALLATIONS



C. Property-line Standard Limitations for Particulate Matter Becoming Airborne

No person shall cause, suffer, or permit the emission of any particulate matter so as to cause concentrations or particulate matter at any inhabited place to exceed any one of the following:

1.	Suspended particulates	80 micrograms/m^3	6-month geometric mean
	(High-Volume Sampler)	200 micrograms/m^3	2-hour arithmetic average for not less than five two-hour sampling periods within any one year. No more than 3 samples shall be taken during any 24-hour period
2.	Soiling Index	0.4Coh/1000 lineal feet	6-month geometric mean
	(AISI Paper tape sampler)	1.0Coh/1000 lineal feet	8-hour arithmetic average

10 CSR 10-2.060 RESTRICTION OF EMISSION OF VISIBLE AIR CONTAMINANATS

A. Restrictions Applicable to All Installations

1. No person may discharge into the ambient air from any source of emission whatsoever any air contaminant: 1. of a shade or density equal to or darker than designated as No. 1 on the Ringelmann Chart; or 2. of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 1 on the Ringelmann Chart.

B. Exceptions

1. A person may discharge into the ambient air from any single source of emission for a period or periods aggregating not more than six minutes in any sixty minutes air contaminants. 1. of a shade or density not equal to nor darker than No. 3 on the Ringelmann Chart; or 2. of such opacity as to obscure an observer's view to a degree not equal to nor greater than does smoke designated as No. 3 on the Ringelmann Chart.

2. For the purposes of subsection B (1) the executive secretary may for a specific source and for special conditions approve any other schedule.

3. Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of section A of this regulations, such section shall not apply.

4. This regulation shall not apply to the following:

   a. Internal combustion engines, except as provided in 10 CSR 10-2.080

   b. Wood burning stoves or fireplaces in dwellings.

   c. Fires used for recreational purposes or fires used for the non-commercial preparation of food by barbecuing.

   d. Fire used solely for the purpose of training firemen.

   e. Smoke generators used for training air pollution control inspectors.

5. This section (B) shall not apply to incinerators.

6. Any person who has altered or controlled a single source so as not to discharge into the ambient air, air contaminants: 1. of a shade or density equal to or darker than that designated as No. 2 on the Ringelmann Chart; or 2. of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 2 on the Ringelmann Chart after March 24,1967 may be excepted from the requirement of section (A) of this regulation by special approval of the executive secretary and the Commission. This subsection B (6) shall not apply after July 31, 1975.

7. Section (A) shall not apply to catalytic cracking units in petroleum refineries.

C. Method of Measurement

1. The Ringelmann Chart shall be the standard in grading the shade or opacity of visible air contaminant emissions. The executive secretary may with the consent of the source operator employ any other means of measurement which give comparable results or results of greater accuracy.

2. The installation of opacity monitoring devices shall be required on fluid bed catalytic cracking unit catalyst regenerators, coal-fired steam generating units with greater than 250 million BTU/hour heat input, and portland cement calcining Kiln operations.

3. Minimum Specifications

   a. Performance specifications. Continuous monitoring systems for monitoring opacity shall comply with performance specification 1 as set forth in 40 CFR Part 60, Appendix B, "Performance Specification 1."

b. Cycling time. Cycling times include the total time a monitoring system requires to sample, analyze and record an emission measurement. Continuous monitoring systems for measuring opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive ten-second period.

c. Monitor location. All continuous monitoring systems or monitoring devices shall be installed such that the measurements obtained are representative measurements of emissions occurring within the discharged opacity profile.

d. Combined effluents. When the effluents from two or more affected facilities of similar design and operating characteristics are combined before being released to the atmosphere, opacity monitoring systems may be installed on the combined effluent.

e. Zero and drift. The owners or operators of all continuous monitoring systems installed in accordance with the requirements of this rule shall record the zero and drift at least once daily unless the manufacturer has recommended adjustments at shorter intervals, at which case such recommendations shall be followed, and shall adjust the zero and span whenever the twenty-four hour zero drift or twenty-four hour calibration drift limits in 40 CFR Part 60, Appendix B, "Performance Specification 1" are exceeded or whenever the twenty-four hour zero drift or twenty-four hour calibration drift exceed 10% of the emission standard.

f. Span. Instrument span shall be approximately 200% of the expected instrument data display output corresponding to the emission standard for the source.

D. Minimum Data Requirements

1. Written reports required. Owners or operators of facilities required to install continuous monitoring systems shall submit a written report of excess emissions for each calendar quarter and the nature and cause of excess emissions, if known, to the staff director. All quarterly reports shall be postmarked by the 30th day following the end of each calendar year.

2. Data summary. The data summary shall consist of the magnitude in actual percent opacity of all six minute averages of opacity greater than the opacity emission limitation. Average of values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of twenty-four equally spaced instantaneous opacity measurements per six minute period. A one hour period means any sixty minute period commencing on the hour and a six minute period means any one of ten equal parts of a one hour period.

3. Inoperative periods. The date and time identifying each period during which the continuous monitoring system was inoperative (except for zero and span checks) and the nature of system repairs or adjustments shall be reported.

4. No excess emissions. When no excess emissions have occurred during the reporting period and the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be included in the report.

5. Files to be maintained. Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard, for a minimum of two years from the date of collection of such data or submission of such summaries.

E. Special Considerations

1. Alternatives. Alternative monitoring requirements, system locations, and procedures for performing calibration checks which do not meet the requirements of this rule, but adequately demonstrate a definite and consistent relationship with the intent of this rule, may be approved by the staff director.

2. Exceptions

   a. Coal fired steam generating units that have an annual boiler capacity factor of 30 percent or less as currently defined by the Federal Power Commission shall be exempt from these monitoring requirements.

   b. Coal fired boilers and portland cement calcining kilns scheduled for retirement prior to January 1, 1981, shall be exempt from these monitoring requirements subject to receipt and approval of an affidavit by the staff director.

   c. Coal fired boilers which utilize flue gas desulfurization equipment shall be exempt from these monitoring requirements.

   d. Portland cement calcining kilns whose particulate emissions are controlled with bag-houses which emit from multiple stacks or vents shall be exempt from these opacity monitoring requirements.

F. Compliance

1. Owners or operators of affected facilities shall submit a plan for meeting the requirements of this rule to the staff director within 60 days of its effective date.

2. Notwithstanding compliance with any other provision of this rule the owner or operator of a facility affected by this rule will be deemed to be in compliance until the compliance plan receives the written approval of the staff director.

3. Effective dates of compliance. Facilities affected by this rule shall comply within twelve months of its effective date.

10 CSR 10-2.070 RESTRICTION OF EMISSION OF ODORS

No person may cause, permit or allow the emission of odorous matter in such concentrations and frequencies or for such durations that such odor can be perceived when one (1) volume of odorous air is diluted with seven (7) volumes of odor-free air for two (2) separate trials not less than 15 minutes apart within the period of one (1) hour.

These measurements may be made with a Scentometer as manufactured by the Barnebey-Cheney Company or by a similar technique that will give equivalent results, as agreed to at the time by the source operator and the Executive Secretary.

10 CSR 10-2.080 EMISSION OF VISIBLE AIR CONTAMINANTS FROM INTERNAL COMBUSTION ENGINES

A. No person may cause or permit the emission of visible air contaminants in excess of the amounts specified in Regulation V, Section A, of these regulations from the internal combustion engine of:

1. Portable or stationary equipment for longer than 10 consecutive seconds; or

2. A motor vehicle while the vehicle is stationary for longer than 10 seconds; or

3. A motor vehicle after the vehicle has moved more than 100 yards from a place where the vehicle was stationary.

4. This Regulation shall not apply when the presence of uncombined water is the only reason for the failure of an emission to meet the requirements of this Regulation.

B. Exceptions

The provisions of this Regulation shall not apply to jet or other aircraft engines.

10 CSR 10-2.090 INCINERATORS

A. General Provisions

1. This Regulation shall apply to all incinerators except those situated on residential premises and used exclusively to dispose of refuse originating on the same premises, provided that the total number of dwelling units on that premises does not exceed four.

2. The burning capacity of an incinerator shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the Executive Secretary in accordance with good engineering practice. In case of conflict, the findings of the Executive Secretary shall govern.

3. No incinerator shall be used for the burning of refuse unless such incinerator is a multiple chamber incinerator. Existing incinerators which are not multiple chamber incinerators may be altered, modified or rebuilt as may be necessary to meet this requirement. The Executive Secretary may approve any other alteration or modification to an existing incinerator if such be found by him to be equally effective for the purpose of air pollution control as a modification or alteration which would result in a multiple chamber incinerator. All new incinerators shall be multiple chamber incinerators, provided that the Executive Secretary shall approve any other kind of incinerator if it can be shown in advance of construction or installation that such other kind of incinerator is equally effective for purposes of air pollution control as an approved multiple chamber incinerator.

4. Within thirty (30) days after the date on which construction of an incinerator is completed, the operator shall file a request with the Executive Secretary to schedule the performance tests provided in Section C of this Regulation . If the results of the performance tests indicate that the incinerator is not operating in compliance with Section B of this Regulation , no person may cause or permit further operation of the incinerator, except for additional tests as outlined in Section C of this Regulation , until approval is received from the Executive Secretary.

B. Restriction of Emissions from Incinerators.

1. No person may cause or permit the emission of particulate matter from the chimney, stack or vent of any incinerator in excess of the following:

   a. Incinerators with a refuse burning capacity of 200 or more pounds per hour: 0.2 grains of particulate matter per standard dry cubic foot of exhaust gas, corrected to 12 percent (12%) carbon dioxide.

   b. All other incinerators: 0.3 grains of particulate matter per standard dry cubic foot of exhaust gas, corrected to 12 percent (12%) carbon dioxide.

2. All incinerators shall be designed and operated so that all gases, vapors and entrained effluents shall, while passing through the final combustion chamber, be maintained at a temperature adequate to prevent the emission of objectionable odors. Provided, however, that the Executive Secretary shall approve any other method of odor control which is equally effective.

C. Performance Testing

1. Refuse burned in conjunction with the performance tests specified in this regulation shall be a representative sample of the refuse normally generated by the operation which the incinerator is intended to serve.

2. The amount of particulate matter emitted from any incinerator shall be determined according to the American Society of Mechanical Engineers Power Test code — PTC-27 dated 1957 and entitled "Determining Dust Concentration in a Gas Stream". This publication is hereby made a part of this Regulation by reference. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executive Secretary. In calculating the amount of particulate matter in stack gas, the loading shall be adjusted to twelve percent (12%) carbon dioxide in the stack gas. The carbon dioxide produced by burning of the liquid or gaseous fuel in the incinerator shall be excluded from the calculation to twelve percent (12%) carbon dioxide. Emissions shall be measured when the incinerator is operating at the burning capacity as defined in Section A (2) of this Regulation VIII, or at any greater operating rate requested by the source operator.

3. A performance test to determine compliance with the Ringelmann requirements specified in 10 CSR 10-2.060 of these regulations shall be performed by the Executive Secretary or his designated representative on each new incinerator, and each existing incinerator modified or rebuilt according to the schedule outlined in Section D of this Regulation.

4. The performance test specified in Subsection C (2) of this Regulation may be required on any incinerator, and shall be required for each new incinerator having a burning capacity of 1,000 pounds per hour or greater. The initial performance rest shall be performed at the expense of the vendor or operator by an independent testing organization or by any other qualified

person subject to the approval of the Executive Secretary. The performance test may be observed by the Executive Secretary or his designated representative.

D. Compliance Schedule for Existing Incinerators

Existing incinerators which are not multiple chamber incinerators and do not otherwise meet the requirements of Section B of this Regulation VIII shall be modified or rebuilt in compliance with this Section in accordance with the following schedule:

Rated Capacity	Latest Date for Compliance
1,000 lbs/hr or above	12 months from the effective date of this regulation
999 lbs/hr or less	18 months from the effective date of this regulation

10 CSR 10-2.100 OPEN BURNING RESTRICTIONS

A. Refuse Burning Restrictions

On and after May 1, 1969 no person may conduct, cause, permit, or allow open burning of refuse.

B. Prohibitions of Salvage Operations by Open Burning

On and after 90 days from the effective date of this Regulation IX, no person may conduct, cause, permit, or allow a salvage operation by open burning.

C. Restrictions on Open Burning of Trade Wastes

On and after 180 days from the effective date of this Regulation IX no person may conduct, cause, permit, or allow the disposal of trade wastes by open burning.

D. Exceptions

1. Open burning of household refuse originating from a residence of fewer than five dwelling units shall not be in violation of Section A of this Regulation, provided that such burning takes place on the premise where the refuse originates, and provided further that such burning takes place either a) within an area zoned for agricultural purposes, or b) outside that portion of the metropolitan area surrounded by the corporate limits of Kansas City and every contiguous municipalty.

2. The open burning of trade wastes and vegetation may be permitted only when it can be shown that such open burning is the only feasible method of disposal and that disposal is in the public interest. Any person intending to engage in such open burning shall file a request to do so with the Executive Secretary. The application shall state the following:

    a. The name, address, and telephone number of the person submitting the application.

    b. The type of business or activity involved.

    c. A description of the proposed equipment and operating practices, the type, quantity, and composition of material to be burned, and the expected composition and amount of air contaminants to be released to the atmosphere, where known.

    d. The schedule of burning operations.

    e. The exact location where the open burning will occur.

    f. Reasons why open burning is the only feasible method of disposal and why disposal is in the public interest.

    g. Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction. Upon approval of the application by the Executive Secretary, the person may proceed with the operation without being in violation of Section A or C of this Regulation IX, but such approval shall not exempt the applicant from the provisions of any other law, ordinance or regulation.

3. The open burning of tree trunks, tree limbs, vegetation, or untreated waste lumber shall not be a violation of this Requlation when such burning takes place at the site of a disposal area licensed for that purpose under the provisions of Section 64.470, RSMo, or at any other site approved by the Executive Secretary.

4. This Regulation shall not apply to the following:

    a. Fires set in connection with agricultural operations related to the growing or harvesting of crops.

    b. Fires set for the purpose of instructing and training firemen in the methods of fighting fires.

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c. The burning of gaseous trade wastes in refinery or industrial chemical safety flares. Full smokeless-tip combustion, steam addition, or other flare smoke control methods approved by the Executive Secretary shall be used, and emissions may not be of a shade or density equal to or greater than #1 on the Ringelmann Chart.

d. Fires used for recreational purposes, or fires used for the non-commercial preparation of food such as by barbecuing.

(2.0 10 CSR 10-2.110 APPROVAL OF PLANNED INSTALLATIONS

B. General

1. No owner or operator shall commence construction or modification of any air contaminant source after the effective date of this regulation without first obtaining a permit from the Executive Secretary.

2. Each application for a construction permit shall be accompanied by site information, plans, descriptions, specifications, and drawings showing the design of the source, the nature and amount of emissions, and the manner in which it will be operated and controlled.

3. Any additional information, plans, specifications, evidence or documentation that the Executive Secretary may require shall be furnished upon request.

4. No permit to construct or modify shall be issued if it is determined that the proposed source will prevent the attainment or maintenance of ambient air quality standards, or violate any of the regulations pursuant to Chapter 203, RSMo.

5. Upon receipt of an application, the Executive Secretary shall act promptly, and shall notify the applicant in writing of his approval, conditional approval, or denial of the application. The Executive Secretary will set forth his reasons for any denial.

6. The Executive Secretary may impose any reasonable conditions, upon a permit, including conditions requiring the source to be provided with:

    a. Sampling ports of a suitable size, number and location,
    b. Safe access to each port,
    c. Instrumentation to monitor and record emission data, and
    d. Other sampling and testing facilities.

7. A permit may be cancelled if construction or modification work is not begun within two (2) years from the date of issuance, or if work is suspended for one (1) year.

8. Any owner or operator subject to the provisions of this regulations shall furnish the Executive Secretary written notification as follows:

    a. A notification of the anticipated date of initial startup of source not more than 60 days or less than 30 days prior to such date.

    b. A notification of the actual date of initial startup of a source within 15 days after such date.

9. Within 60 days after achieving the maximum production rate at which the source will be operated, but not later than 180 days after initial startup of such source, the owner or operator of such source shall conduct performance test(s) in accordance with methods and under operating conditions approved by the Executive Secretary and furnish the Executive Secretary a written report of the results of such performance test.

a. Such tests shall be at the expense of the owner or operator.

b. The Executive Secretary may monitor such tests and may also conduct performance tests.

c. The owner or operator of a source shall provide the Executive Secretary 15 days prior notice of the performance test to afford the Executive Secretary the opportunity to have an observer present.

10. Approval to construct shall not relieve any owner or operator of the responsibility to comply with other local, state and federal regulations.

C. Exceptions:

1. Fuel burning equipment which use gas or oil or grade #3 or lighter for space heating, air conditioning, or heating water, is used in a private dwelling; or has a heat input as specified by the manufacturer or designer of less than 350,000 BTU's per hour.

2. Mobile internal combustion engines.

3. The construction of a private residence.

4. Portable equipment including, but not limited to rock crushers, asphalt plants, and concrete batching plants shall be exempted from the requirements of this regulation after an initial permit has been obtained, provided that:

   a. Each new location is reported to the Executive Secretary as early a possible, but in no case later than fourteen (14) days prior to ground breaking or initial equipment erection.

   b. The equipment that was originally approved, shall be operated and maintained in a manner identical to that as specified in the initial construction permit.

5. Planned periodic modification of air contaminant sources shall be exempted from the requirements of this regulation, provided that:

   a. A prior permit has been obtained for all planned air contaminant sources, and

   b. Each modification be reported to the Executive Secretary as soon as possible, and,

c. The prior permit contains provisions for controlling emissions from all probable air contaminant sources that may be expected to come into existence as a result of the periodic modification.

6. Other sources of minor significance specified by the Executive Secretary.

10 CSR 10-2.120 MEASUREMENT OF EMISSIONS OF AIR CONTAMINANTS

Executive Secretary May Make Tests

The Executive Secretary may conduct tests of emissions of air contaminants from any source. Upon request of the Executive Secretary, the person responsible for the source to be tested shall provide necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.

10 CSR 10-2.130 SUBMISSION OF EMISSION INFORMATION

A. General Provisions

1. The owner or operator of any source shall, upon notification from the Executive Secretary, maintain records of the nature and amounts of emissions from such source and/or any other information as may be deemed necessary by the Executive Secretary to determine whether such source is in compliance with applicable emission limitations or other control measures.

2. The information recorded shall be reported to the Executive Secretary on a semiannual basis commencing with the first full semiannual period after the Executive Secretary's notification to such owner or operator of the record-keeping requirements. The semiannual periods are January 1 to June 30 and July 1 to December 31, except that the initial reporting period shall commence on the date the Executive Secretary's notification of the record-keeping requirements.

3. The records required by this regulation shall be completed on forms furnished by or satisfactory to the Executive Secretary, and shall be submitted within 45 days after the end of each reporting period.

4. All information collected or recorded in accordance with the provisions of this regulation shall be retained by the owner or operator for two (2) years after the date on which the pertinent report is submitted.

10 CSR 10-2.140 CIRCUMVENTION

No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. This regulation shall not apply when the only violation involved is violation of a regulation based on concentration or presence of one or more air contaminants at locations beyond the premises on which a source or sources are located

10 CSR 10-2.150 TIME SCHEDULE FOR COMPLIANCE

Except as otherwise specified, compliance with the provisions of these regulations shall be according to the following time schedule:

A. All new installations shall comply as of going into operation.

B. All existing installations not in compliance as of the effective date of these regulations shall be in compliance within six months of the effective date unless the owner or person responsible for the operation of the installation shall have submitted to the Executive Secretary in a form and manner satisfactory to him, a program and schedule for achieving compliance, such program and schedule to contain a date on or before which full compliance will be attained, and such other information as the Executive Secretary may require. If approved by the Executive Secretary, such date will be the date on which the person shall comply.

The Executive Secretary may require persons submitting such program to submit subsequent periodic reports on progress in achieving compliance.

C. All other dates notwithstanding, all existing installations in Buchanan County shall be in compliance with these regulations by September 1, 1970, and January 1, 1971 for Regulation, unless the owner or person responsible for the operation of the installation has submitted to the Executive Secretary in a form and manner satisfactory to him, a program and schedule for achieving compliance, such program and schedule to contain a date on or before which full compliance will be attained, and such other information as the Executive Secretary may require. If approved by the Executive Secretary, such date will be the date on which the person shall comply.

10 CSR 10-2.160 RESTRICTION OF EMISSION OF SULFUR COMPOUNDS

A. Emission of Sulfur Compounds in Certain Amounts and Manner Restricted

1. No person may cause or permit the emission of sulfur dioxide from any premises in such manner and amounts that the concentrations exceed those shown in the following table in the ambient air at any occupied place beyond the premises on which the source is located:

Concentration [a]	Averaging Time	Maximum Allowable Frequency
.25 ppm or more	1 hour	Once in any 4 days at any sampling site.
.07 ppm or more	24 hours	Once in any 90 days at any sampling site.

2. If the concentrations and frequencies specified in Subsection A (1) of this Regulation are exceeded, each source which contributes to such concentrations and frequencies, and which emits 1,000 pounds or more of sulfur dioxide per hour shall be required to reduce its emissions by an amount specified by the Executive Secretary. Each source owner or operator shall file an emission reduction plan within 90 days after the date on which such requirement is made by the Executive Secretary. The emission reduction plan shall include a description of the process modifications, control equipment to be installed, or other measures to be taken to comply with the emission reduction required by the Executive Secretary. Implementation of the plan shall take place within one year after the date on which the plan is approved by the Executive Secretary.

B. Exemptions

1. This regulation shall not apply to indirect heating sources.

10 CSR 10-2.170 RULES FOR CONTROLLING EMISSIONS DURING PERIODS OF HIGH AIR POLLUTION POTENTIAL

A. General Provisions

1. This regulation shall apply to all emissions from any source or any premises.

2. It may apply to all or part of the metropolitan area depending upon which pollutant fulfills the requirements of subsection B. 2., below, and whether or not air sampling reveals only a localized problem.

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[a] parts per million by volume

B. Air Pollution Alerts and Emergencies

1. Alert and emergency level values are stated:

   a. the product of the hourly sulfur dioxide concentration in parts per million, and the hourly particulate concentration in COH per 1,000 linear feet, or

   b. the concentrations of SO_2, CO, photochemical oxidants, particulates in COHs, or NO_2.

The basis of reference for the State of Missouri data shall be: Sulfur dioxide as measured by the continous modified West-Gaeke method or any other method standardized against such; particulates as measured by the automatic paper-tape sampler method, "ASTM Standard Method of Filtered Deposit, D-1704-61"; carbon monoxide as measured by the infrared spectophotometer method, MSA Bulletin No. 0705-10, Instrument Division, Pittsburgh, Pennsylvania; photochemical oxidants as measured by "Analytical Methods of the 'Intersociety Committee on Methods for Ambient Air Sampling and Analyses', Health Laboratory Science, 1970".

2. Alert Value:

   a. Yellow Alert value - any one of the following shall initiate the Yellow Alert

      1. Product reaching at 0.2 at any sampling station (24 hour average).

      2. Sulfur dioxide concentration reaching 0.30 ppm at any sampling station (24 hour average).

      3. Photochemical oxidant concentration reaching 0.10 ppm at any sampling station (1 hour average).

      4. Carbon monoxide concentration reaching 15 ppm at any sampling station (8 hour average).

      5. Particulate concentration reaching 3 COHs (375 ug/m^3) at any sampling station (24 hour average).

      6. NO_2 concentration reaching 0.6 ppm at any sampling station (1 hour average) 0.15 ppm (24 hour average).

b. Red Alert value - Any one of the following shall initate the Red Alert:

1. Product reaching 0.8 at any sampling station (24 hour average).
2. Sulfur dioxide concentration reaching 0.6 ppm at any sampling station (24 hour average).
3. Photochemical oxidant concentration reaching 0.4 ppm at any sampling station (1 hour average).
4. Carbon monoxide concentration reaching 30 ppm at any sampling station (8 hour average).
5. Particulate concentration reaching 5 COHs (625 ug/m^3) at any sampling station (24 hour average).
6. NO_2 concentration reaching 1.2 ppm at any sampling station (1 hour average) 0.3 ppm (24 hour average).

c. Emergency Alert value - Any one of the following shall initiate an Emergency Alert:

1. Product reaching 1.2 at any sampling station (24 hour average).
2. Sulfur dioxide concentration reaching 0.8 ppm at any sampling station (24 hour average).
3. Photochemical oxidant concentration reaching 0.6 ppm at any sampling station (1 hour average).
4. Carbon monoxide concentration reaching 40 ppm at any sampling station (8 hour average).
5. Particulate concentration reaching 7 COHs (875 ug/m^3) at any sampling station (24 hour average).
6. NO_2 concentration reaching 1.6 ppm at any sampling station (1 hour average) 0.4 ppm (24 hour average).

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C. Air Pollution Watch

1. Air Pollution Watch procedures shall be initiated by the Executive Secretary upon receipt of a 36 hour high air stagnation advisory from the National Severe Storms Administration, or the National Air Pollution Control Administration for an area including all or part of the affected area.

2. The following watch procedured shall apply:

    a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Watch conditions exist.

    b. Notify all affected governmental control agencies that Watch conditions exist, and the coordination of action is required.

    c. Increase the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 2 hours, with continual hourly review, at a central location, if such equipment is available and it is deemed necessary by the Executive Secretary.

    d. Inform the general public through the news media that a high air pollution potential exists, the area or areas where high initial readings have been obtained from sampling, and encourage persons suffering from respiratory ailments or heart conditions to take whatever precautions are most appropriate.

    e. Backyard incineration, including the open burning of leaves, tree trimmings, garbage, and other refuse shall be prohibited throughout the entire affected area.

    f. All variances or permits allowing open burning shall be temporarily rendered invalid for the duration of the high air pollution potential.

    g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary shall be notified that Watch conditions exist. All such industries shall be requested to voluntarily begin actions to reduce emissions of air contaminants from their operations, consistent with the provisions of their Yellow Alert plans. See Table I.

    h. The Executive Secretary may request through the news media that the use of automobiles be restricted to necessary driving only.

D. Yellow Alert

1. Yellow Alert procedures shall be initiated by the Executive Secretary if an air stagnation advisory and/or the Yellow Alert values are equalled or exceeded at any one sampling station within the advisory area, unless there is a current forecast of meteorological improvement within the next 24 hours.

2. The following Yellow Alert procedures shall apply:

   a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Yellow Alert condition exist.

   b. Notify all affected governmental control agencies that Yellow Alert conditions exist, and the coordination of action is required.

   c. Notify all hospitals within the affected area that Yellow Alert conditions exit.

   d. Increase the frequency of air monitoring at all sampling stations which are not continous at intervals not exceeding 1 hour, with continual hourly review at a central control location, if such equipment is available and it is deemed necessary by the Executive Secretary.

   e. Inform the general public through the news media that a Yellow Alert exists, the geographical area or areas where the alert is applicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respirator ailments or heart conditions to take the most appropriate and expedient precautions.

   f. The Executive Secretary shall request very emphatically through the news media that all unnecessary use of automobiles be restricted, and that all entertainment functions and facilities be closed.

   g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Yellow Alert conditions shall initiate such plans upon notification by the Executive Secretary. See Table I.

   h. No open burning will be allowed anywhere within the affected area.

E. Red Alert

1. Red Alert procedures shall be initiated by the Executive Secretary if the following requirements are met:

    a. A 36 or 24-hour high air stagnation advisory is in effect for all or part of the affected area.

    b. The Red Alert values equalled or exceeded at any one monitoring station within the area.

The Red Alert can also be initiated if:

    a. The Red Alert value is equalled or exceeded as the arithmetic mean for 12 consecutive hours, and an air stagnation advisory

    b. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 24 consecutive hours and a forecast of stagnation for the following 12 hours is received.

2. The following Red Alert procedures shall apply:

    a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Red Alert conditions exist.

    b. Notify all affected governmental control agencies that Red Alert conditions exist and that coordination of action is required.

    c. Notify all hospitals within the affected area that Red Alert conditions exist.

    d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1 hour with continual hourly review at a central control location.

    e. Inform the general public through the news media that a Red Alert exists, the geographical area or areas where the alert is appicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respiratory ailments or heart conditions to take the most appropriate and expedient precautions.

f. Airlines operating within the Red Alert area shall be notified that such conditions exist, and that a reduction of flights out of the airport may be required.

g. Non-local vehicular traffic may be diverted around the Red Alert area depending upon which pollutant or pollutants caused the alert.

h. Local vehicular traffic shall through the news media be told to avoid certain areas, and emphatically told to restrict nonessential trips.

i. All incineration and open burning shall cease, regardless of location.

j. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Red Alert conditions shall initiate such plans upon notification by the Executive Secretary. See Table II.

F. Air Pollution Emergency

1. Emergency procedures shall be initiated by the Executive Secretary, if the following requirements are met:

   a. A 36 or 24- hour air stagnation advisory is in effect for all or part of the affected area.

   b. The air pollution emergency values are equalled or exceeded at any one monitoring station.

The Air Pollution Emergency procedures can also be initiated if:

   a. The air pollution emergency value is equalled or exceeded as the arithmetic mean of 12 consecutive hours and a forecast of stagnation for the following 12 hours is received, or

   b. The Red Alert is equalled or exceeded as the arithmetic mean for 24 hours and a forecast of stagnation for the following 12 hours is received, or

   c. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 36 hours and a forecast of stagnation for the following 12 hours is received.

2. The following Emergency Procedures shall apply:

a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that an emergency exists.

b. Notify all affected governmental control agencies that an emergency exists, and that coordination of action is required.

c. Notify all hospitals within the affected area that an emergency exists, and to be so prepared.

d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding ½ hour with continual half-hour review at a central control location.

e. Open burning and incineration shall cease throughout the area.

f. Facilities which are sources of air contaminant emissions and are required to have filed approved plans with the Executive Secretary shall initiate such plans upon notification by the Executive Secretary or his representative that Air Pollution Emergency conditions exist. See Table III.

g. The use of motor vehicles is prohibited except in emergencies with the approval of local or state police.

h. All manufacturing facilities except those listed in F. 2. f. shall insititute such action as will result in maximum reduction of air contaminants from their operations by ceasing, curtailing, or postponing operations to the extent possible without causing injury to persons or damage to equipment.

i. All airplane flights originating within the area of the Air Pollution Emergency shall be cancelled.

j. All places of employment described below shall immediately cease operation during the Air Pollution Emergency:

Mining and Quarrying
Contract Construction Work
Wholesale Trade Establishments
Schools and Libraries

Governmental Agencies except those needed to administer Air Pollution Alert Program and other essential agencies determined by the Executive Secretary to be vital for public safety and welfare and needed to administer the provisions of these regulations

Retail trade stores except those dealing primarily in sale of food or pharmacies

Banks, real estate agencies, insurance offices and similar businesses

Laundries, cleaners and dryers, beauty and barber shops and photographic studios

Amusement and recreational service establishments such as motion picture theaters

Automobile repair and automobile service garages

Advertising offices, consumor credit reporting, adjustment and collection agencies, printing and duplicating services, rental agencies and commercial testing laboratories

G. It should be made clear that an Air Pollution Watch, Yellow Alert, Red Alert or Emergency can be declared on the basis of deteriorating air quality alone; an air stagnation advisory need not be in effect. The appropriate episode status should be declared by the Executive Secretary when any monitoring site records ambient air quality below that designated in the criteria.

The levels used to designate an Air Pollution Emergency are those that pose an eminent and substantial endangerment to public health. Because these levels should not be permitted to occur, an air stagnation advisory should be declared when it appears that these levels may be reached.

H. Termination of Alerts

When in the judgement of the Executive Secretary meteorological conditions and pollutant concentrations are such to warrant discontinuance of any alert conditions, he shall notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that the alert has been discontinued, and issue a public notice to that effect.

TABLE I

YELLOW ALERT PLAN OBJECTIVES

Air Contaminant Source		Requirements for Plan
1. Electric Power Generating Facilities	1a.	Reduction of emission by utilization of fuels having low ash and sulfur content.
	b.	Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (12:00 PM.M to 4:00 P.M.)
	c.	Reduction of emissions by diverting electric power generation to facilities outside of area for which the alert is called.
2. Process Steam Generating Facilities	2a.	Reduction of emissions by utilization of fuels having low ash and sulfur content.
	b.	Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.)
	c.	Reduction of steam load demands consistent with continuing the operation of the plant.
3. Manufacturing industries of the following (SIC) group designations Paper and Allied Products Industries-Group 26 Chemicals and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29	3a.	Reduction of air contaminant emissions by curtailing, postponing, or deferring production and allied operations.
	b.	Stop all trade waste disposal production which emit particles, gases, vapors or malodorous substances including incineration.
	c.	Reduction of heat load demands for processing to a minimum.

Stone, Glass, Clay and Concrete Product Industries-Group 32 Primary Metals Industries -Group 33 Grain Industries -Group 20	
4. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	4a. Reduction of air contaminant emissions by curtailing or deferring production and allied operations.
	b. Stop all trade waste disposal practices which emit particles, gases, vapors or malodorous substances including incineration.
	c. Reduction of heat load demands for processing to a minimum.
5. Private, public and commercial refuse disposal operations.	5a. Stop all open burning including disposal of diseased trees and burning at fire fighting schools, except as required for disposal of hazardous materials or other emergency needs.
	b. Operation of incinerators shall be limited to the hours between 10:00 A.M. and 2:00 P.M.
6. Transportation	6a. The unnecessary operation of any motor vehicle should be restricted.

TABLE II

RED ALERT PLAN OBJECTIVES

All Yellow Alert plans shall be continued. In addition, the following steps shall be taken:

Air Contaminant Source	Requirements for Plan
1. Process steam generating facilities	1a. Maximum reduction of air contaminant emissions by utilization of fuels having

	the lowest ash and sulfur content.
	b. Maximum utilization of periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.) for soot blowing and boiler lancing.
	c. Prepare to implement the "emergency" plan submitted to the Executive Secretary.
2. Manufacturing industries of the following SIC Group designations Paper and Allied Products Industries-Group 26 Chemical and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29 Stone, Glass, Clay and Concrete Product Industries-Group 32 Primary Metals Industries -Group 33 Grain Industries-Group 20	2a. Maximum reduction of air contaminant emission by, if necessary, postponing production and allied operations b. Maximum reduction of heat load demands for processing. c. Prepare to implement the "emergency" plan submitted to the Executive Secretary.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	3a. Maximum reduction of air contaminant emissions by, if necessary, postponing production and allied operations.
4. Private, public and commercial refuse disposal operations.	4a. Stop operation of all incinerators.
5. Transportation	5a. Car pools and public transportation must be used in place of unnecessary motor vehicle operation.

TABLE III

AIR POLLUTION EMERGENCY PLAN OBJECTIVES

Air Contaminant Source	Requirements for Plan

All Yellow and Red Alert plans shall be continued. In addition, the following steps shall be taken:

1. Process steam generating facilities	1a. Maximum reduction of air contaminant emissions by reducing heat and steam load demands to values consistent with preventing equipment damage.
	b. Maximum utilization periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.) for soot blowing and boiler lancing.
2. Manufacturing industries of the following SIC Group designations Paper and Allied Products Industries-Group 26 Chemicals and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29 Stone, Glass, and Clay and Concrete Product Industries-Group 32 Primary Metal Industries-Group 33 Grain Industries-Group 23	2a. Elimination of air contaminant emission from the manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	3a. Elimination of air contaminant emissions from the manufacturing operations by ceasing, curtailing postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
	b. Maximum reduction of heat load demands for processing.
4. Private, public and commercial operations.	4a. The following places of employment, if notified by the Executive Secretary, shall immediately cease operations:

	1. Mining and quarrying operations. 2. Construction projects except as required to avoid emergent physical harm. 3. Manufacturing establishments except those required to have in force an air pollution alert plan. 4. Wholesale trade establishments. 5. Governmental units, except as required to implement the provisions of these regulations and other operations essential to immediate protection of the public welfare and safety. 6. Retail trade and service establishments except pharmacies, food stores and other similar operations providing for emergency needs. 7. Other commercial service operations such as those engaged in banking, insurance real estate, advertising, etc. 8. Educational institutions. 9. Amusement and recreational facilities.
5. Transportation	5a. Motor vehicles shall only be used for private and public emergency needs.

10 CSR 10-2.180 PUBLIC AVAILABILITY OF EMISSION DATA

Emission data obtained from owners or operators of emission sources will be correlated with applicable emission limitations and other control measures, and will be made available to the public upon request.

10 CSR 10-2.200 RESTRICTION OF EMISSION OF SULFUR COMPOUNDS FROM INDIRECT HEATING SOURCES

PURPOSE: Adoption of this rule will enable the Air Conservation Commission to ensure attainment and maintenance of national primary and secondary ambient air quality standards for sulfur dioxide.

1. Emission of Sulfur Dioxide from Indirect Heating Sources Restricted

   A. This section 1. applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or hot air or other indirect heating of liquids, gases, or solids and, in the course of doing so, the products of combustion do not come into direct contact with process materials. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

   B. The provisions of this section 1. are applicable to all indirect heating sources greater than three hundred fifty thousand (350,000) BTU per hour actual heat input.

   C. No person shall cause or allow emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight (8) pounds of sulfur dioxide per million BTU actual heat input averaged on any three-hour basis unless that source is listed in subsection 1.D. or is subject to 10 CSR 10-2.190.

   D. The following indirect heating sources shall limit their average sulfur dioxide emissions into the atmosphere to the allowable amount of sulfur dioxide per million BTU of acutal heat input listed below (based on any consecutive three-hour time period):

1.

Facility	Emission Rate (Pounds Sulfur) Dioxide Per Million BTU)
Independence Power & Light	6.3
Kansas City Power & Light-Grand Ave. Plant	9.0
Kansas City Power & Light-Hawthorn Plant	6.1
Missouri Public Service Company - Sibley Plant	9.0
St. Joseph Light & Power-Lake Road Plant	8.6

E. Compliance with subsections 1.C. and D. shall be determined by source testing. The heating value of the fuel shall be determined as specified in 10 CSR 10-6.040, Section 2. Source testing to determine compliance shall be done as specified in CSR 10-6.030, Section 6. The actual heat input shall be determined by multiplying the heating value of the fuel by the amount of fuel burned during the source test period.

F. Other test methods approved by the department director may be used.

10 CSR 10-2.210 CONTROL OF EMISSIONS FROM SOLVENT METAL CLEANING

Purpose: This regulation specifies equipment, operating procedures, and training requirements for the reduction of hydrocarbon emissions from solvent metal cleaning operations in the Kansas City Metropolitan Area.

(1) Application

(A) This regulation shall apply throughout Clay, Jackson, and Platte Counties.

(2) General Provisions

(A) No person shall cause or allow solvent metal cleaning or degreasing operations:

1. without operating procedures as contained in this regulation and as recommended by the equipment manufacturer; and

2. without the minimum operator and supervisor training as specified in this regulation; and,

3. unless the equipment conforms to the specifications listed in this regulation.

(B) This regulation applies to all processes, which use cold cleaners, open-top vapor degreasers, or conveyorized degreasers, using non-aqueous solvents to clean and remove soils from metal surfaces.

(C) The owner or operator of a solvent metal cleaning or degreasing operation shall keep inventory records of solvent purchases and solvent consumption for a period of two years and all such records shall be made available to the director upon his request.

(D) Definitions for key words used in this rule may be found in 10 CSR 10-6.020.

(3) Equipment Specifications

(A) Cold Cleaners

1. Each cold cleaner shall have a cover which will prevent the escape of solvent vapors from the solvent bath while in the closed position or an enclosed reservoir which will limit the escape of solvent vapors from the solvent bath whenever parts are not being processed in the cleaner.

2. When one (1) or more of the following conditions exist, the design of the cover shall be such that it can be

easily operated with one hand and without disturbing the solvent vapors in the tank. (For covers larger than ten (10) square feet this shall be accomplished by either mechanical assistance such as spring loading or counter weighing or by power systems.)

A. The solvent volatility is greater than 0.3 pounds per square inch measured at one hundred (100) degrees Fahrenheit such as in mineral spirits.

B. The solvent is agitated.

C. The solvent is heated.

3. Each cold cleaner shall have a drainage facility which will be internal so that parts are enclosed under the cover while draining.

4. If an internal drainage facility cannot fit into the cleaning system and the solvent volatility is less than 0.6 pounds per square inch measured at one hundred (100) degrees Fahrenheit, then the cold cleaner shall have an external drainage facility which provides for the solvent to drain back into the solvent bath.

5. Solvent sprays, if used, shall be a solid fluid steam (not a fine, atomized or shower-type spray) and at a pressure which does not cause splashing.

6. A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment.

7. Any cold cleaner which uses a solvent that has a solvent volatility greater than 0.6 pounds per square inch measured at one hundred (100) degrees Fahrenheit or heated above one hundred twenty (120) degrees Fahrenheit must use one of the following control devices:

A. Freeboard height that gives a freeboard ratio greater than or equal to 0.7.

B. Water cover (solvent must be insoluble in and heavier than water).

C. Other systems of similar control, such as a refrigerated chiller or carbon adsorption.

(B) Open Top Vapor Degreasers

1. Each open-top vapor degreaser shall have a cover which will prevent the escape of solvent vapors from the degreaser while in the closed position and shall be designed to open and close easily with one (1) hand and without disturbing the solvent vapors in the tank. For

covers larger than ten (10) square feet this shall be accomplished by either mechanical assistance such as spring loading or counter weighing or by power systems.

2. Each open-top vapor degreaser shall be equipped with a vapor level safety thermostat with a manual reset, which shuts off the heating source when the vapor level rises above the cooling or condensing coil; or an equivalent safety device approved by the director.

3. Each open-top vapor degreaser shall be equipped with at least one (1) of the following control devices:

    A. For existing equipment a freeboard ratio of 0.5.

    B. For equipment installed after the effective date of this regulation, a freeboard ratio of at least 0.75.

    C. A refrigerated chiller.

    D. An enclosed design (the cover or door opens only when the dry part is actually entering or exiting the degreaser).

    E. A carbon adsorption system with ventilation of at least fifty (50) cubic feet per minute per square foot of air vapor area when the cover is open, and exhausting less than twenty-five (25) parts per million of solvent by volume averaged over one (1) complete adsorption cycle, or

    F. A control system approved by the department director after demonstration has shown it to have a control efficiency equivalent to or better than any of the above.

4. A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment.

(C) Conveyorized Degreasers

1. Each conveyorized degreaser shall have a drying tunnel or rotating (tumbling) basket or other means demonstrated to have equal to or better control which shall be used to prevent cleaned parts from carrying out solvent liquid or vapor.

2. Each conveyorized degreaser shall have the following safety switches or equivalent safety devices approved by the director which operate if the machine malfunctions.

    A. A vapor level safety thermostat with manual reset which shuts off the heating source when the vapor level rises just above the cooling or condensing coil.

B. A spray safety switch, which shuts off the spray pump if the vapor level in the spray chamber drops four (4) inches, for conveyorized degreasers utilizing a spray chamber.

3. Entrances and exits shall silhouette work loads so that the average clearance between parts and the edge of the degreaser opening is less than four (4) inches or less than ten percent (10%) of the width of the opening.

4. Covers shall be provided for closing off the entrance and exit during hours when the degreaser is not being used.

5. A permanent, conspicuous label summarizing the operating procedures shall be affixed to the equipment.

6. If the air/vapor interface is larger than twenty-one and one-half (21.5) square feet, one (1) major control device shall be required. This device may be one of the following:

   A. A refrigerated chiller.

   B. Carbon adsorption system with ventilation of at least fifty (50) cubic feet per minute per square foot of the total entrance and exit areas (when down-time covers are open), and exhausting less than twenty-five (25) parts per million of solvent by volume averaged over a complete adsorption cycle, or

   C. A control system approved by the department director a control efficiency equivalent to or better than any of the above.

(4) Operating Procedures

(A) Cold Cleaners

1. Cold cleaner covers shall be closed whenever parts are not being handled in the cleaners or the solvent must drain into an enclosed reservoir.

2. Cleaned parts shall be drained in the freeboard area for at least fifteen (15) seconds or until dripping ceases, whichever is longer.

3. Whenever a cold cleaner fails to perform within the operating parameters established for it by this rule, the unit shall be shut down immediately and shall

remain shut down until trained service prsonnel are able to restore operation within the established parameters.

4. Any waste material removed from a cold cleaner shall either be reduced to less than twenty percent (20%) volatile solvent by distillation on the premises before disposal or stored in closed containers for transfer to either a contract reclamation service or to a disposal facility approved by the department director under chapter 260, RSMo.

5. Waste solvent shall be stored in covered containers only.

(B) Open-Top Vapor Degreasers

1. The cover shall be kept closed at all times except when processing workloads through the degreaser.

2. Solvent carry-out shall be minimized in the following ways:

    A. Parts shall be racked, if practical, or allow full drainage.

    B. Parts shall be moved in and out of the degreaser at less than eleven (11) feet per minute.

    C. Workload shall remain in the vapor zone at least thirty (30) seconds or until condensation ceases.

    D. Pools of solvent shall be removed from cleaned parts before removing parts from the degreaser freeboard area.

    E. Cleaned parts shall be allowed to dry within the degreaser freeboard area for at least fifteen (15) seconds or until visually dry, whichever is longer.

3. Porous or absorbent materials such as cloth, leather, wood, or rope shall not be degreased.

4. If workloads occupy more than half of the degreaser's open-top area, rate of entry and removal shall not exceed five (5) feet per minute.

5. Spray shall never extend above vapor level.

6. Whenever a vapor degreaser fails to perform within the operating parameters established for it by this rule, the unit shall be shut down until trained service personnel are able to restore operation within the established parameters.

7. Solvent leaks shall be repaired immediately or the degreaser shall be shut down.

8. Ventilation exhaust shall not exceed sixty-five (65) cubic feet per minute per square foot of degreaser open area unless proof is submitted that it is necessary to meet OSHA requirements. Fans shall not be used near the degreaser opening.

9. Water shall not be visually detectable in solvent exiting the water separator.

10. Any waste material removed from an open-top degreaser shall either be reduced to less than twenty percent (20%) volatile solvent by distillation on the premises before disposal or stored in closed containers for transfer to either a contract reclamation service or to a disposal facility approved by the department director under chapter 260, RSMo.

11. Waste solvent shall be stored in covered containers only.

(C) Conveyorized Degreasers

1. Ventilation exhaust shall not exceed sixty-five (65) cubic feet per minute per square foot of degreaser opening unless proof is submitted that it is necessary to meet OSHA requirements. Fans shall not be used near the degreaser opening.

2. Solvent carry-out shall be minimized in the following ways:

    A. Parts shall be racked, if practical, to allow full drainage.

    B. Vertical conveyor speed shall be maintained at less than eleven (11) feet per minute.

3. Whenever a conveyorized degreaser fails to perform within the operating parameters established for it by this rule, the unit shall be shut down immediately and shall remain shutdown until trained service personnel are able to restore operation within the established parameters.

4. Solvent leaks shall be repaired immediately or the degreaser shall be shut down.

5. Water shall not be visually detectable in solvent exiting the water separator.

6. Covers shall be placed over entrances and exits

immediately after conveyor and exhaust are shut down and removed just before they are started up.

7. Waste solvent shall be stored in covered containers only.

8. Any waste material removed from a conveyorized degreaser shall either be reduced to less than twenty percent (20%) volatile solvent by distillation on the premises before disposal or stored in closed containers for transfer to either a contract reclamation service or to a disposal facility approved by the department director under chapter 260, RSMo.

(5) Operator and Supervisor Training

(A) Only persons trained in at least the operational and equipment requirements specified in this regulation for their particular solvent metal cleaning process shall be permitted to operate the equipment.

(B) The supervisor of any person who operates a solvent metal cleaning process shall receive equal or greater operational training than the operator.

(C) Refresher training shall be given to all solvent metal cleaning equipment operators at least once each twelve (12) months.

(D) A record shall be kept of solvent metal cleaning training for each employee.

(6) Effective Dates of Compliance

(A) Owners or operators subject to this regulation shall be in compliance with operating procedures and operator and supervisor training requirements as described in sections (4) and (5) of this regulation no later than June 1, 1979.

(B) Owners or operators subject to this regulation shall comply with equipment specifications as described in section (3) of this regulation and associated equipment operating procedures within twelve (12) months of the effective date of this regulation.

(7) Exceptions

(A) Solvent metal cleaning operations using 1,1,1-Trichloroethane (Methyl Chloroform), Acetonitrile (Methyl Cyanide), or Trichlorotrifluoroethane (Refrigerant 113) will be exempt from the requirements of this rule.

(B) 1,1,1-Trichloroethane (Methyl Chloroform), Acetonitrile (Methyl Cyanide), and Trichlorotrifluoroethane (Refrigerant 113) have been implicated as having deletorius effects on stratospheric ozone and, therfore, may be subject to future regulations.

10 CSR 10-2.220 Liquefied Cutback Asphalt Paving

Restricted

Purpose: This regulation restricts volatile organic compunds emissions from cutback asphalt paving operations.

(1) Application

(A) This regulation shall apply only in Clay, Jackson, and Platte Counties.

(B) This rule limits the use or application of liquefied cutback asphalt in paving and maintenance operations on highways, roads, parking lots, and driveways.

(2) General

(A) After December 31, 1982 no person may cause or permit the use or application of liquefied cutback asphalts on highways, roads, parking lots, and driveways during the months of May, June, July, August, and September except as permitted in section (3). This subsection refers to liquefied cutback asphalt which is directly applied or use in a plant-mix or road-mix.

(3) Exceptions

(A) The use or application of liquefied cutback asphalts is permitted if:

1. the liquefied cutback asphalt is used in a plant-mix or road-mix which is used solely for filling potholes or for emergency repairs; or

2. the liquefied cutback asphalt is used to produce a plant-mix manufactured for resale or for use outside Clay, JAckson, and Platte Counties: or

3. the liquefied cutback asphalt is to be used solely as an asphalt prime coat or an asphalt seal coat on absorbent surfaces.

10 CSR 10-2.230 Control of Emissions from Industrial Surface Coating Operations

Purpose: This regulation restricts volatile organic compound (VOC) emissions from industrial surface coating operations.

(1) Application

(A) This regulation shall apply only in Clay, Jackson, and Platte Counties.

(2) General

(A) No person shall emit to the atmosphere any volatile organic compounds (VOC) from any surface coating operation in excess of the amount allowed in subsection (3) (A). This section will apply to application area(s), flashoff area(s), and oven(s) used in coating operations.

(B) The emission limits contained in subsection (3) (A) shall be an arithmetic average of all coatings, delivered to the coating applicator on a coating line.

(C) Compliance with the emission limits specified in subsection (3) (A) may be demonstrated by the implementation of a plant-wide emission compliance plan which utilizes a daily weighted average of emissions from a combination of affected source operations, provided that:

1. all source operations involved in the plan are subject to the emission limits of this rule.
2. all source operations are part of the same installation.
3. the total actual volatile organic compound emissions for each 24-hour period do not exceed the sum of the allowable emissions determined from subsection (3) (A) for each source operation for the same period.
4. equivalent emission reductions are accomplished in the time intervals allowed in subsection (3) (A) as would be required for individual source operations.
5. the plan is approved by the Director.

(3) Emission Limitations

(A) Surface Coating Emission Limits

Surface Coating Process	Emission Limit lb/gal Coating (minus water)	Dates of Compliance
Large Appliance		
Topcoat	2.8	12/31/81
Final Repair	6.5	12/31/81
Magnet wire	1.7	12/31/81
Metal furniture	3.0	12/31/81
Auto/light duty truck		

Ford Motor Company		
Prime		
with electrocoat	1.2	12/31/82
Spray Prime	3.2	12/31/83
Topcoat (Truck)	3.6	12/31/85
Topcoat (Passenger)	3.6	12/31/86
Final Repair (Truck)	4.8	12/31/85
Final Repair (Passenger)	4.8	12/31/86
Miscellaneous Metal Parts -		
Extreme Performance and		
Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
General Motors Car		
Cathodic Electrocoat	1.2	12/31/82
Primer Surfacer	3.0	12/31/80
	2.8	12/31/87
Topcoat	5.8	12/31/79
	5.0	12/31/81
	2.8	12/31/87
Final repair	6.5	7/1/79
	4.8	12/31/87
Miscellaneous Metal Parts -		
Extreme Performance and		
Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
Paper	2.9	12/31/81
Vinyl	3.8	12/31/81
Fabric	2.9	12/31/81
Coil	2.6	12/31/81
Can		
2 piece exterior,	4.0	12/31/82
sheet basecoat	2.8	12/31/85
2 and 3 piece interor		
body spray	4.2	12/31/82
2 piece end exterior	4.2	12/31/82
3 piece side seam	5.5	12/31/82
	4.2	12/31/82
End seal compound	3.7	12/31/82
Railroad Cars, Farm Implements		
and Machinery, and Heavy Duty Trucks	3.5	12/31/82
Other Metal Parts		
Clear Coat	4.3	12/31/82
Extreme Performance Coat	3.5	12/31/82
Air Dried Coating	3.5	12/31/82
Other Coatings	3.0	12/31/82

(4) Exceptions

(A) This regulation will not apply to any installation which emits less than 100 tons per year of volatile organic compounds from surface coating operations covered under this rule.

(B) This regulation is not applicable to the surface coating of the following metal parts and products:

1. Exterior refinishing of airplanes;

2. Automobile refinishing;

3. Customizing top coating of automobiles and trucks. If production is less than 35 vehicles per day;

4. Exterior of marine vessels;

(5) Recordkeeping and Reporting

(A) The owner or operator of a coating line shall submit to the director; upon written request, reports detailing specific VOC sources; the quantity of coatings used for a specified time period, organic solvent content of each coating (minus water); capture and control efficiencies; and any additional information pertinent to the calculation of VOC emissions.

(B) Information as listed under subsection (5) (A) for the calculation of VOC emissions shall be retained by the owner or operator for a minimum of two years.

(6) Submittal of Compliance Schedule

(A) No later than six months after the effective date of this rule the owner or operator shall submit to the Director for his approval a program and schedule for achieving compliance with the emission limits and corresponding dates in subsection (3) (A).

(B) The Director may require persons submitting such program to submit periodic subsequent reports on progress in achieving compliance.

10 CSR 10-2.240 Restriction of Emissions of Volatile Organic Compounds from Petroleum Refinery Sources

Purpose: This regulation restricts the emission of volatile organic compounds from petroleum refinery sources.

(1) Application

(A) This regulation shall apply to all petroleum refineries in the Kansas City Metropolitan Area.

(2) General Provisions

(A) No owner or operator of any petroleum refinery may use or permit the use of any vacuum producing systems at the petroleum refinery unless the volatile organic compound emissions from the condensers, hot wells or accumulators of any such system are reduced by:

1. Piping the noncondensable vapors into a firebox or incinerator; or

2. Compressing the vapors and adding them to the refinery fuel gas; or

3. Any other method which is equally effective as approved by the director.

(B) No owner or operator shall cause or permit the operation or installation of a single or multiple compartment wastewater (oil/water) separator which receives water containing two hundred (200) gallons (760 liters) a day or more of any volatile organic compounds unless the compartments receiving said water are constructed with the following vapor-loss control equipment in good working order and in operation or any other method which is equally effective in reducing volatile organic compound emissions as approved by the director:

1. A solid cover having all openings sealed and totally enclosing the liquid contents. All gauging and sampling devices shall be equipped with a cover or lid that is in a closed position at all times except while the device is in actual use. The oil removal devices shall not allow volatile organic compound emissions except while manual skimming, inspection and/or repair is in progress.

2. A floating roof, consisting of a floating pontoon, double-deck type roof, or internal floating cover which will rest on the surface of the liquid contents, and is equipped with a closure seal, or seals, to close the space between the roof edge and container wall.

(C) The owner or operator of each petroleum refinery shall develop and submit to the director for approval a detailed procedure to minimize emissions of volatile organic compounds during process unit turnarounds. The procedure shall at least provide:

1. Depressurization venting of the process unit to a fuel gas system, vapor recovery system, flare or firebox; or any other system which is equally effective in reducing volatile organic compound emissions as approved by the director.

2. No emission of volatile organic compunds from any process unit turnaround until the internal pressure of the process unit is 19.7 psia or less.

3. Keeping records of the following for at least two (2) years:

   A. Every date that each process unit or vessel is shutdown.

B. The approximate total quantity of volatile organic compounds emitted to the atmosphere which results from each process unit turnaround.

(D) Each petroleum refinery owner or operator shall be in compliance with this rule by September 21, 1980.

10 CSR 10-2.250 Control of Volatile Leaks from Petroleum Refinery Equipment

Purpose: This regulation requires monitoring and repairing of leaks of volatile organic compounds from petroleum refinery equipment.

(1) Application

(A) This regulation shall apply to all petroleum refineries in the Kansas City Metropolitan Area.

(2) General Provisions

(A) No owner or operator may use or permit the use of any petroleum refinery processing equipment without one of the following volatile organic compound monitoring systems:

1. Individual source monitoring.
2. Unit walk through monitoring.
3. Multiple fixed-point monitoring.
4. Any other procedure which is equally effective in reducing volatile organic compound emissions as approved by the director.

(B) When any component within the refinery complex is found to be leaking volatile organic compounds, to the extent that at five (5) centimeters from the leak source the volatile organic compound concentration is greater than one thousand (1,000) parts per million, the refinery operator shall make every reasonable effort to repair the leak within fifteen (15) days.

(C) The owner or operator of each petroleum refiery shall repair as expeditiously as practicable all volatile organic compound leaks as described in subsection (B) of this section which require more then fifteen (15) days to repair. For volatile organic compound leaks which require more than six (6) months to repair, a report shall be submitted, within thirty (30) days of the discovery of the leak, to the director for approval. The report shall include:

1. The location of the leak.

2. The approximate quantity of volatile organic compounds being emitted.

3. The reasons the repair cannot be practicable completed within fifteen (15) days.

4. The expected completion date of the repair of the leak.

(D) The owner or operator of each petroleum refinery shall submit within thirty (30) days of the end of each semi-annual period a report stating:

1. The date of discovery, location of, and sequential number assigned to each leak.

2. The date of final repair of each leak.

3. For repairs requiring more than fifteen (15) days, but less than six (6) months to repair, the reason repairs could not be made practicably in less than fifteen (15) days.

4. For repairs requiring more than six (6) months to repair, the date of the schedule was submitted in accordance with subsection (C) of this section.

5. For repairs not completed at the end of the semi-annual period, the report shall state an expected repair date, and the next semi-annual report shall state the actual date the repair is completed.

(E) The owner or operator of each petroleum refinery shall maintain for at least two (2) years information necessary to determine compliance with the requirements of subsections (B) and (C) of this section.

(F) A violation of an approved schedule submitted under subsection (C) of this section shall constitute a violation of this rule.

(3) Individual Unit Testing

(A) Testing of individual process equipment shall be done in accordance with Appendix B of EPA publication EPA-450/2-78-036 entitled "Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment", with monitoring equipment which meets the specifications listed in this EPA publication.

(B) The owner or operator must submit a detailed plan of the desired volatile organic compound monitoring system to the director by no later than nine (9) months after the effective date of this rule. The director will review each plan submitted and shall approve or disapprove said plan within sixty (60) days of receipt. Monitoring of volatile organic compound leaks shall begin July 1, 1980.

(4) Exemptions

(A) A petroleum refinery owner or operator shall not be required by this rule to implement the monitoring requirement of this rule within an area solely devoted to storage of petroleum products.

10 CSR 10-2.260 Control of Petroleum Liquid Storage, Loading, and Transfer.

(1) General

(A) This regulation shall apply only in Clay, Jackson, and Platte Counties.

(B) Definitions as specified in this rule may be found in 10 CSR 10-6.020.

(C) This regulation shall only apply to stationary source installations which emit one hundred (100) tons per year or more of volatile organic compounds from the storage, loading, or transfer of petroleum liquids.

(2) Petroleum Storage Tanks

(A) No person shall cause or permit the storage in any stationary tank, reservoir or other container of more than 40,000 gallons capacity petroleum liquid having a true vapor pressure of 1.5 pounds per square inch absolute or greater at 70 degrees F, unless such tank, reservoir or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent volatile organic compound vapor or gas loss to the atmosphere or is designed or will be built, and equipped with one of the following vapor loss control devices:

1. A floating roof, consisting of a pontoon type, double-deck type, or internal floating cover or external floating cover, which will rest on the surface of the liquid contents and is equipped with a closure seal, or seals, to close the space between the roof edge and tank wall. Vessels with external floating roofs will meet the additional following requirements:

A. The vessel has been fitted with:

(I) a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

(II) a closure or other device which controls VOC emissions with an effectiveness equal to or greater than a seal required under part (2) (A) 1.A. (I) of this section and approved by the director.

B. All seal closure devices meet the following requirements:

(I) there are no visible holes, tears, or other openings in the seal(s) or seal fabric:

(II) the seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

(III) for vapor mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1/8 in.) width between the secondary seal and the tank wall shall not exceed 21.2 square cm per meter of tank diameter (1.0 square inch per foot of tank diameter).

C. All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

(I) equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and

(II) equipped with projections into the tank which remain below the liquid surface at all times.

D. Automatic bleeder vents are closed at all times except when the roof is floated of or landed on the roof leg supports;

E. Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and,

F. Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening.

2. A vapor recovery system with all tank gauging and sampling devices gas-tight except when gauging or sampling is taking place. The vapor disposal portion of the vapor recovery system shall consist of an adsorber system, condensation system, or equivalent vapor disposal system that processes the vapor and gases from the equipment being controlled.

3. Other equipment or means of equal efficiency for purposes of air pollution control as may be approved by the staff director.

(B) Control equipment described in paragraph (2)(A)1. shall not be permitted if the gasoline or petroleum liquid stored has a true vapor pressure of 11.1 pounds per square inch absolute or greater at 70 degrees F. All tank gauging and sampling devices shall be built so as to be gas-tight except when gauging or sampling is to take place.

(C) This section shall not apply to:

1. storage vessels for petroleum or condensate stored, processed, and/or treated at a drilling and production facility prior to custody transfer: or

2. storage vessels that contain a petroleum liquid with a true vapor pressure less than 27.5 kPa (4.0 psia at 70 degrees F; and

   A. are of welded construction; and

   B. presently posses a metallic-type shoe seal, a liquid-mounted filled type seal, or other closure device of demonstrated equivalence approved the the director; or

3. storage vessels of welded construction, equipped with a metallic type shoe primary seal and have a shoe-mounted secondary seal; or,

4. storage vessels used to store waxy, heavy pour crude oil.

(D) Any owner or operator of a petroleum liquid storage vessel who must install a secondary seal or equivalent in order to achieve compliance, shall meet the applicable increments of progress contained in the following schedule:

1. submit final plans for the emission control system before December 15, 1980;

2. award contracts for the emission control system before February 1, 1981;

3. initiate onsite construction of installation of the emission control equipment before April 15, 1981;

4. complete onsite construction or installation of the emission control equipment before August 15, 1981; and

5. achieve final compliance before October 1, 1981,

(3) Gasoline Loading

(A) No person shall cause or permit the loading of gasoline into any tank truck, trailer, or railroad tank car from any loading facility unless the loading facility is equipped with a vapor recovery system or its equivalent approved by the staff director.

(B) Loading shall be accomplished in such a manner that the displaced vapors and air will be vented only to the vapor recovery system. Measures shall be taken to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected. The vapor disposal portion of the vapor recovery system shall consist of one of the following:

1. An adsorber system, condensation system, or equivalent vapor disposal system that processes the vapors and gases from the equipment being controlled and limits the discharge of volatile organic compounds into the atmosphere to 0.30 grams of volatile organic compound vapor per gallon of gasoline loaded.

2. A vapor handling system that directs the vapor to a fuel gas system.

3. Other equipment of an efficiency equal to or greater than 1. or 2. if approved by the staff director.

(C) This section shall not apply to loading facilities whose average monthly throughput is less than or equal to 600,000 gallons, provided that the facility loads gasoline by submerged loading.

(4) The vessel may be refilled within Platte, Jackson, and Clay Counties only at installations equipt with a vapor recovery system or equivalent as described in section (3).

(5) No person shall operate, use, or maintain a gasoline delivery vessel which is loaded at an installation subject to section (3) of this rule unless the delivery vessel:

(A) at all times sustains a pressure change of no more than 750 pascals (3 in of H20) in 5 min. when pressurized to a gauge pressure of 4,500 pascals (18 in. of H20) or evacuated to a gauge pressure of 1,500 pascals (6 in. of H20);

(B) is repaired by the owner or operator and retested within 15 days of testing if it does not meet the criteria of subsection (5)(A) of this rule.

(C) Any owner or operator of a delivery vessel or vapor recovery system subject to this rule shall be in compliance by January 1, 1981.

(D) This section shall not be construed to prohibit safety valves or other devices required by governmental safety regulations.

(6) The owner or operator of a vapor recovery system subject to this rule shall:

(A) design and operate the vapor recovery sytem and the gasoline loading equipment in a manner that prevents:

1. gauge pressure from exceeding 4,500 pAscals (18 in. of H2O) in the delivery vessel;

2. a reading equal to or greater than 100 percent of the lower explosive limit (LEL, measured as propane) at 2.5 centimeters from all points on the perimeter of a potential leak source when measured by the method referenced in subsection (8)(B) during loading or transfer operations;

3. avoidable visible liquid leaks during loading or transfer operations;

(B) within 15 days, repair and retest a vapor recovery system that exceeds the limits in subsection (6)(A) of this rule.

(7) The director may, at any time, monitor a delivery vessel or vapor recovery system by the method referenced in subsections (8)(A) and (8)(B), to confirm continuing compliance with sections (5) or (6) of this regulation.

(8) Testing, Monitoring, and Reporting

(A) Test procedures to determine compliance with section (5) shall be as described in 10 CSR 10-6.030 paragraph (20)(B)1.

(B) Monitoring to confirm the continuing existence of leak tight conditions shall be as described in 10 CSR 10-6.030 paragraph (20)(B)2.

(C) Any owner or operator of a delivery vessel subject to this rule shall provide to the director the results of any test for tank leaks as required by 49 CFR parts 177 and 178 (October 1, 1978) (DOT Cargo Tank Hazardous Material Regulations).

(9) Compliance

(A) Compliance with this regulation by each affected facility shall be achieved according to the following schedule:

1. By October 1, 1979 - submit to the staff director for the final control plan.

2. By March 1, 1980 - initiate on-site construction or installation of control equipment.

3. By April 15, 1981 - achieve final compliance.

10 CSR 10-2.280 Control of Emissions from Perchloroethylene Dry Cleaning Installations.

Purpose: This regulation restricts the emissions of volatile organic compounds (VOC) from perchloroethylene dry cleaning installations.

(1) Application

(A) This regulation applies to perchloroethylene dry cleaning installations located in the following areas: Clay County, Jackson County and Platte County.

(B) This rule applies only to installations which emit equal to or greater than 100 tons per year of volatile organic compounds from perchloroethylene dry cleaning operations.

(2) General

(A) No owner or operator shall cause or allow the operation of any perchloroethylene dry cleaning installation unless such facility meets the following requirements:

1. The entire dryer exhaust shall be vented through a carbon adsorber or equally effective control device such that the maximum solvent concentration in the vent from the dryer control device shall not exceed 100 ppmv before dilution.

2. There shall be no liquid leakage from the system.

3. Filter and distillation wastes.

A. The residue from all diatomaceous earth filters shall be cooked or treated so that wastes shall not contain more than 25 kg (55 lb) of solvent per 100 kg (220 lb) of wet waste material.

B. The residue from all solvent stills shall not contain more than 60 kg (132 lb) of solvent per 100 kg (220 lb) of wet waste material.

C. Filatration cartridges shall be drained in the filter housing for 24 hours, or in other sealed container before being discarded. The drained cartridges should be dried in the dryer tumbler after draining if at all possible.

(3) Exceptions

(A) Paragraph (2)(A)1. of this regulation shall not be applicable to: Coin-operated installations, installations where an adsorber can not be accomodated because of inadequate space, or installations where no or insufficient steam capacity is available to desorb adsorbers. The director may exclude other installations from the provisions of paragraph (2)(A)1. of this regulation if it is demonstrated that other hardships or economics justify such an exclusion.

(4) Compliance Schedules

(A) The owner or operator of a perchloroethylene dry cleaning installations subject to paragraph (2)(A)1. of this regulation must meet the applicable increments of progress in the following schedule:

1. Award contracts, issue purchase orders, or otherwise order the emission control system and process equipment, before April 1, 1981;

2. Complete installation of the emission control and process equipment, before March 1, 1982;

3. Achieve final compliance, determined in accordance with Section (5), before April 1, 1982; and

4. In the event that equipment cannot be delivered prior to February 1, 1982 and the owner or operator placed the order prior to April 1, 1981, the final compliance date shall be 60 days following delivery of the equipment.

(B) The owner or operator of a perchloroethylene dry cleaning facility subject to this regulation must comply with the operational and maintenance provisions of paragraph (2)(A)2. and (A)3. by April 1, 1981.

(5) Compliance Methods

(A) Compliance with subparagraph (2)(A)3.C of this regulation shall be determined by means of a visual inspection.

(B) Compliance with paragraph (2)(A)1. of this regulation shall be determined by

1. means of a visual inspection, and

2. the testing method referenced in 10 CSR 10-6.030 (20)(A).

(C) Compliance with paragraph (2)(A)2. of this regulation shall be determined by means of visual inspection of the following components:

1. Hose connections, unions, couplings and valves; machine door gaskets and seatings; filter and head gasket and seatings; pumps; basetanks and storage containers; water separations; filter sludge recovery; distillation unit; diverter valves; saturated lint from lint basket; and cartridge filters.

(D) Compliance with subparagraphs (3)(A)2.A. and B. of this regulation shall be determined by the testing method referenced in 10 CSR 10-6.030 (20)(B) 10 CSR 10-6.040(8).

10 CSR 10-2.290 - Control of Emissions from Rotogravure and Flexographic Printing Facilities

Purpose: This rule restricts volatile organic compound (VOC) emissions from rotogravure and flexographic printing facilities.

(1) Application

(A) This rule applies to all rotogravure and flexographic printing installations located in the following areas: Clay County, Jackson County and Platte County.

(B) This rule applies only to installations which emit equal to or greater than 100 tons per year of volatile organic compounds from rotogravure or flexographic printing operations.

(2) Emission Limits

(A) Flexographic Printing Processes:

1. No owner or operator shall use or permit the use of any flexographic printing operation unless such operation is equipped with a control method that will remove, destroy or prevent the discharge into the ambient air of no less than 60 percent by weight of uncontrolled volatile organic compound emissions.

(B) Publication Rotogravure Printing Processes:

1. No owner or operator shall use or permit the use of any publication rotogravure printing operation unless such operation is equipped with a control method that will remove, destroy or prevent the discharge into the ambient air of no less than 75 percent by weight of uncontrolled volatile organic compound emissions.

(C) All Other Rotogravure Printing Processes:

1. No owner or operator shall use or permit the use of any other rotogravure printing operation unless such operation is equipped with a control method that will remove, destroy or prevent the discharge into the ambient air of no less than 65 percent by weight of uncontrolled volatile organic compound emissions.

(D) If low solvent technology is used as a means of control to achieve the reductions specified in (2)(A), (B) and (C), the following limits must be met:

1. For waterborne inks, the volatile portion of the ink must contain no more than 25% by volume of volatile organic compound.

2. For high solids inks, the ink must be 60% or greater nonvolatile material.

(3) Reporting and Recordkeeping

(A) The owner or operator of a rotogravure or flexographic printing installation covered by this rule must submit to the Director annually the composition and amount of ink use, amount of solvent used, amount of cleanup solvent discarded, and any other information necessary to determine compliance with this rule. Such information shall be submitted on a calendar year basis.

(B) For owners or operators utilizing add-on control technology the following parameters will be monitored:

1. exhaust gas temperature of all incinerators;

2. temperature rise across a catalytic incinerator bed;

3. VOC breakthrough on a carbon adsorption unit; and

4. any other monitoring device requested by the Director.

(C) Inventory records of all information detailed in Subsection (3)(A) and (3)(B) shall be kept for a period of not less than two years, and all such records shall be made available to the Director upon his request.

(D) For add on control technology, compliance with this rule shall be determined by the testing methods referenced in 10 CSR 10-6.030, (20)(A).

(4) Alternate Compliance Method

(A) Compliance with the emission limits of Section (2) may be demonstrated by the implementation of plant-wide emission compliance plan which utilizes a 7 day weighted average of emissions from a combination of affected source operations, provided that:

1. All source operations involved in the plan are subject to the emission limits of this rule.

2. All source operations are part of the same installation.

3. The total volatile organic compound emissions for each 7 day period do not exceed the sum of the allowable

emissions determined from Paragraphs (2)(A)1., (2)(B)1. and (2)(C)1. for each source operation for the same period.

4. Equivalent emission reductions are accomplished in the time intervals allowed in Subsection (5)(B) as would be required for individual source operations.

5. The plan is approved by the Director.

(5) Compliance Dates

(A) The owner or operator of a rotogravure or flexographic printing installation subject to this rule must submit a final control plan to the Director by December 31, 1980 for his approval. This plan must include the following:

1. A detailed plan of process modifications.

2. A time schedule for compliance containing increments of progress and a final compliance date.

(B) Compliance with this rule shall be accomplished by any installation as expeditiously as practicable, but in no case shall final compliance extend beyond December 31, 1982.

CHAPTER 3 - AIR POLLUTION REGULATIONS FOR THE OUTSTATE MISSOURI AREA

10 CSR 10-3.010 AUTO EXHAUST EMISSION CONTROLS

A. Definitions of terms specified in this rule may be found in 10 CSR 10-6.020.

B. Ignition System and Engine Speed

All 1968 and subsequent model year gasoline powered motor vehicles shall be maintained so as to be in compliance with the following requirements:

1. The number of revolutions per minute of an engine while operating at idle speed shall be in accordance with the specifications, and determined under conditions, published by the manufacturer, but in no case shall the idle speed be less than the minimum specified in such published specifications. Revolutions per minute shall be determined by a tachometer or other device which shall be tested for accuracy and precision at reasonable intervals under such terms and conditions as the Executive Secretary may direct.

2. Ignition timing of an engine shall comply with the published specifications of the manufacturer as determined in accordance with procedures and conditions specified by the manufacturer.

3. All cylinders shall be firing.

C. Crankcase Ventilation Systems

The positive crankcase ventilation system on all 1968 and subsequent model year gasoline powered motor vehicles, except motorcycles and motor tricycles, and all 1969 and subsequent model year gasoline powered motor vehicles, including motorcycles and motor tricycles, shall meet the following requirements:

1. The plumbing and connections shall be properly connected as installed by the manufacturer and free of obstructions and leakage.

2. There shall be a negative pressure (suction) at the inlet of the crankcase ventilation valve.

3. The crankcase ventilation valve shall be freely operative so as to regulate the flow of gases through the system.

D. Exhaust Emission Control Systems

1. Air injection systems

Exhaust emission control air injection systems on those gasoline powered motor vehicles so equipped by the manufacturer shall operate so that:

a. The air delivery hoses, connections, and air distribution manifold shall be properly connected as installed by the manufacturer and free of obstructions and leakage.

b. The air compressor drive belt tension shall be within manufacturer's specifications.

c. There is a positive air flow from the air pump to the air delivery distribution manifold.

d. The check valve prevents any reverse air flow from the air distribution manifold out through the check valve inlet.

e. The anti-backfire valve, gulp-valve, air bypass valve, or other similar device with the same function permits the passage of air from the air pump to the exhaust manifold or manifolds, except when the carburetor throttle is closed rapidly from an open position as in deceleration.

2. Engine modification systems

   All vacuum control valves, vacuum lines, mechanical linkage, electrical circuits and switches peculiar to certain engine modification systems shall be properly connected as installed on all 1968 and subsequent model year gasoline powered motor vehicles so equipped by the manufacturer.

3. The requirements of this section (D) shall apply to all gasoline powered motor vehicles with the following exceptions:

   a. Vehicles of 1967 or earlier model year.

   b. Vehicles not equipped by the manufacturer with exhaust emission control air injection systems.

   c. Commercial vehicles of over 1,000 pounds designed capacity.

   d. Motor vehicles with an engine displacement of less than 50 cubic inches (819.35 cubic centimeters).

10 CSR 10-3.020 APPROVAL OF PLANNED INSTALLATIONS

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

C. General

1. No owner or operator shall commence construction or modification of any air contaminant source after the effective date of this regulation without first obtaining a permit from the Executive Secretary.

2. Each application for a construction permit shall be accompanied by site information, plans, descriptions, specifications and drawings showing the design of the source, the nature and amount of emissions, and the manner in which it will be operated and controlled.

3. Any additional information, plans, specifications, evidence or documentation that the Executive Secretary may require so be furnished upon request.

4. No permit to construct or modify shall be issued if it is determined that the proposed source will prevent the attainment or maintenance of ambient air quality standards or violate any of the regulations pursuant to Chapter 203, RSMo.

5. Upon receipt of an application, the Executive Secretary shall act promptly, shall notify the applicant in writing of his approval, conditional approval, or denial of the application. The Executive Secretary will set forth his reasons for any denial.

6. The Executive Secretary may impose any reasonable conditions, upon a permit, including conditions requiring the source to be provided with:

    a. Sampling ports of a suitable size, number and location,

    b. Safe access to each port,

    c. Instrumentation to monitor and record emission data, and

    d. Other sampling and testing facilities.

7. A permit may be cancelled if construction or modification work is not begun within two (2) years from the date of issuance, or if work is suspended for one (1) year.

8. Any owner or operator subject to the provisions of this regulation shall furnish the Executive Secretary written notification as follows:

a. A notification of the anticipated date of initial startup of source not more than 60 days or less than 30 days prior to such date.

b. A notification of the actual date of initial startup of a source within 15 days after such date.

9. Within 60 days after achieving the maximum production rate at which the source will be operated, but not later than 180 days after initial startup of such source, the owner or operator of such source shall conduct performance test(s) in accordance with methods and under operating conditions approved by the Executive Secretary and furnish the Executive Secretary a written report of the results of such performance test.

   a. Such tests shall be at the expense of the owner or operator.

   b. The Executive Secretary may monitor such tests and may also conduct performance tests.

   c. The owner or operator of a source shall provide the Executive Secretary 15 days prior notice of the performance test to afford the Executive Secretary the opportunity to have an observer present.

10. Approval to construct shall not relieve any owner or operator of the responsibility to comply with other local, state and federal regulations.

D. Exception:

1. Fuel burning equipment which use gas or oil of grade #3 or lighter for space heating, air conditioning, or heating water is used in a private dwelling; or has a heat input as specified by the manufacturer or designer of less than 350,000 BTU's per hour.

2. Mobile internal combustion engines.

3. The construction of a private residence.

4. Portable equipment including, but not limited to rock crushers, asphalt plants, and concrete batching plants shall be exempted from the requirements of this regulation after an initial permit has been obtained, provided that:

   a. Each new location is reported to the Executive Secretary as early as possible, but in no case later than fourteen (14) days prior to ground breaking or initial equipment, erection, and

    - b. The equipment that was originally approved, shall be operated and maintained in a manner identical to that as specified in the initial construction permit.

5. Planned periodic modification of air contaminant sources shall be exempted from the requirements of this regulation, provided that:
    - a. A prior permit has been obtained for all planned air contaminant sources, and
    - b. Each modification be reported to the Executive Secretary as soon as possible, and
    - c. The prior permit contains provisions for controlling emissions from all probable air contaminant sources that may be expected to come into existence as a result of the periodic modifications.

6. Other sources of minor significance specified by the Executive Secretary.

10 CSR 10-3.030 OPEN BURNING RESTRICTIONS

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Chares, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Green Counties.

C. Prohibition of Salvage Operations by Open Burning

On and after 180 days from the effecitve date of this regulation, no person may conduct, cause, permit or allow, a salvage operation by open burning.

D. Refuse Burning Restrictions

On and after one year from the effective date of this regulation, no person may conduct, cause, permit or allow, open burning of refuse.

E. Restrictions on Open Burning of Trade Wastes

On and after 180 days from the effective date of this regulation, no person may conduct, cause, permit or allow, the disposal of trade wastes by open burning.

F. Exceptions

1. The open burning of trade wastes may be permitted only when it can be shown that an emergency exists which requires open burning or when it can be shown that such open burning is the only feasible method of disposal. Any person intending to engage in open burning of trade wastes shall file a request to do so with the Executive Secretary of the Air Conservation Commission. The application shall state the following:

    a. The name, address, and telephone number of the person submitting the application.

    b. The type of business or activity involved.

    c. A description of the proposed equipment and operating practices, the type, quantity, and composition of trade wastes to be burned, and expected composition and amount of air contaminants to be released to the atmosphere where known.

    d. The schedule of burning operations.

    e. The exact location where open burning will be used to dispose of the trade waste.

    f. Reasons why an emergency exists or no method other than open burning is feasible,

    g. Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction. Upon approval of the application by the Executive Secretary, the person may proceed with the operation without being in violation of Section D or E of this regulation, but such approval shall not exempt the applicant from the provisions of any other law, ordinance or regulation.

2. This regulation shall not apply to the following:

    a. Burning of refuse on a residential premises having not more than four dwelling units, provided that the refuse originates on the same premises.

b. Burning of refuse at a dump or other solid waste disposal area owned or operated by a city, or operated under license, permit or contract to a city, for a period of two years from the effective date of this regulation for cities having a population in the range between 2,000 and 10,000 inhabitants, and for a period of three years from the effective date of this regulation for cities having a population of less than 2,000 inhabitants, provided such burning takes place at a distance greater than one-fourth mile from the nearest inhabited dwelling.

c. Open burning of tree trunks, tree limbs, vegetation, or untreated waste lumber when such burning takes place at the site of a sanitary landfill licensed under the provisions of Section 64.670, RSMo or at any other site approved by the Executive Secretary

d. Waste materials resulting from wood processing facilities in existence as of the effective date of this regulation and which do not relocate to a new site, and producing less than 8,000 board feet or equivalent per day, may be open burned if a least 200 yards from the nearest dwelling. Waste materials resulting from wood processing plants which relocate or form new wood processing facilities not in existence as of the effective date of this regulation, and producing less than 8,000 board feet, or equivalent per day, may be open burned if at least one (1) mile outside the city limits of any incorporated area or municipality, and at least 200 yards from the nearest dwelling.

e. Open burning of tree trunks, tree limbs, and vegetation from land clearing operations when such burning takes place at a distance equal to or greater than 200 yards from the nearest inhabited dwelling.

f. Open burning of trade wastes in cotton gins until December 31, 1971.

g. Fires set in connection with agricultural or forestry operations related to the growing or harvesting of crops.

h. Fires set for the purpose of instructing and training firemen in the methods of fighting fires.

i. Camp fires and other fires used solely for recreational purposes, for ceremonial occasions, or for outdoor non-commercial preparation of food.

3. Nothing in this section may be construed to permit open burning which causes or constitutes a hazard to vehicular or air traffic nor which violates any other regulations.

(1) Application

(A) This regulation shall apply throughout the state of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene counties.

(2) Emission of Sulfur Dioxide from indirect Heating Sources Restricted

(A) This section (2) applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or hot air or other indirect heating of liquids, gases, or solids and, in the course of doing so, the products of combustion do not come into direct contact with process materials. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitation shall apply.

(B) The provisions of this section (2) are applicable to all indirect heating sources greater than three hundred fifty thousand (350,000) BTU per hour actual heat input.

(C) No person shall cause or allow emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight (8) pounds of sulfur dioxide per million BTU actual heat input averaged on any three-hour basis unless that source is listed in subsection (2)(D) or is subject to 10 CSR 10-3.140.

(D) The following existing indirect heating sources shall limit their average sulfur dioxide emissions into the atmosphere to the allowable amount of sulfur dioxide permillion BTU of actual heat input listed below (based on any consecutive three-hour time period):

Facility	Emission Rate[a]
Associated Electric Cooperative - New Madrid	10
Associated Electric Cooperative - Thomas Hill Units 1 and 2	9.5 until Jan. 1, 1982 8.0 after Jan. 1, 1982
Central Electric Power Cooperative - Chamois	6.7
Empire District Electric Company - Asbury Station	12
Kansas City Power & Light Company - Montrose Station	12.9
University of Missouri - Columbia	4.0 until Jan. 1, 1981 8.0 after Jan. 1, 1981

fuel

(E) Compliance with subsections (2)(C) and (D) shall be determined by source testing. The heating value of the fuel shall be determined as specified in 10 CSR 10-6.040, section (2). Source testing to determine compliance shall be done as specified in 10 CSR 10-6.030, section (6). The actual heat input shall be determined by multiplying the heating value of the fuel by the amount of fuel burned during the source test period.

(F) Other test methods approved by the department director may be used.

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[a] Pounds Sulfur Dioxide Per Million BTU

10 CSR 10-3.040 INCINERATORS

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Jackson, Platte, and Greene Counties.

B. Definitions of terms specified in this rule may be found in 10 CSR 10-6.020.

C. General Provisions

1. This regulation shall apply to any incinerator used to dispose of refuse by burning to to process salvageable material by burning.

2. The burning capacity of an incinerator shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the Executive Secretary in accordance with good engineering practice.

3. All new incinerators shall be multiple chamber incinerators, provided that the Executive Secretary may approve any other kind of incinerator if he finds in advance of construction or installation that such other kind of incinerator will comply with the requirements of Section D.

4. Each new incinerator will have affixed to it a plate inscribed with a set of instructions which clearly set forth in proper sequence the steps necessary to effect the satisfactory operation of the incinerator and the manufacturer's or designer's recommended burning rate in pounds of refuse per hour and the heat

input of the burners in BTU's per hour. The plate shall be conspicuously located so as to be readily visible to the incinerator operator.

5. Within thirty (30) days after the date on which construction of an incinerator is completed, the operator shall file a request with the Executive Secretary to schedule the performance tests provided in Section E of this regulation. If the results of the performance test indicate that the incinerator is not operating in compliance with Section D of this regulation, no person may cause or permit further operation of the incinerator, except for additional tests as outlined in Section E of this regulation, until approval is received from the Executive Secretary.

D. Restriction of Emissions from Incinerators

1. No person may cause or permit the emission of particulate matter from the chimney, stack or vent of any new incinerator in excess of the following:
    a. Incinerators with a refuse burning capacity of 200 or more pounds per hour: 0.2 grains of particulate matter per standard dry cubic foot of exhaust gas, corrected to 12 percent (12%) carbon dioxide.
    b. All other new incinerators: 0.3 grains of particulate matter per standard dry cubic foot of exhaust gas, corrected to 12 percent (12%) carbon dioxide.

2. No person may cause or permit the emission from any incinerator any air contaminant of a shade or density equal to or darker than that designated by the number on the Ringelmann Chart specified herein, or of such capacity as to obscure an observer's view to a degree equal to or greater than an emission designated by that number on the Ringelmann Chart as specified herein:
    a. New incinerators: Ringelmann Chart Number 1.
    b. New tepee burner: Ringelmann Chart Number 2 until January 1, 1973 and Ringelmann Chart No. 1 thereafter.
    c. All other incinerators: Ringelmann Chart Number 2, provided that for purposes of starting a fire or for charging any existing incinerator, except for tepee burners, a person may discharge for a period or periods aggregating not more than six (6) minutes in any sixty (60) consecutive minutes, air contaminants of a shade or density darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view greater than an emission designated as No. 2 on the Ringelmann Chart.

d. All tepee burners for purposes of starting a fire may discharge for a period, not exceeding 30 minutes, air contaminants of shade or density darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view greater than an emission designated as No. 2 on the Ringelmann Chart.

3. All new incinerators shall be designed and operated so that all gases, vapors and entrained effluents shall, while passing through the final combustion chamber, be maintained at a sufficient temperature to destroy all odor, provided, however, that the Executive Secretary may approve any other method of odor control which he finds to be equally effective.

E. Performance Testing

1. Refuse burned in conjunction with the performance tests specified in this regulation shall be a representative sample of the refuse normally generated by the operation which the incinerator is intended to serve.

2. The amount of particulate matter emitted from any incinerator shall be determined according to the American Society of Mechanical Engineers Power Test Codes - PTC - 27 dates 1957 and entitled "Determining Dust Concentration in A Gas Stream". This publication is hereby made a part of this regulation by reference. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executuve Secretary. In calculating the amount of particulate matter in stack gas, the loading shall be adjusted to twelve percent (12%) carbon dioxide in the stack gas. The carbon dioxide produced by burning of any liquid or gaseous fuel in the incinerator shall be excluded from the calculation to twelve percent (12%) carbon dioxide. Emissions shall be measured when the incinerator is operating at capacity or at any other burning rate during which emission of particulate matter is greater.

3. A performance test to determine compliance with the Ringelmann requirement specified in subsection D-3 of this regulation shall be performed on each new incinerator by the Executive Secretary or his designated representative.

4. The performance test specifed in subsection E-2 of this regulation may be required on any new incinerator and shall be required for each new incinerator having a burning capacity of 1,000 pounds per hour or greater. The initial performance test shall be performed at the expense of the vendor or operator subject to the approval of the Executive Secretary. The performance test may be observed by the Executive Secretary or his designated representative.

F. Exceptions

1. This regulation shall not apply to incinerators situated on residential premises and used exclusively to dispose of refuse originating on the same premises, provided that the total number of dwelling units on that premises does not exceed four.

2. This regulation shall not apply to incineration at cotton gins until December 31, 1971.

*10 CSR 10-3.050 RESTRICTION OF EMISSION OF PARTICULATE MATTER FROM INDUSTRIAL PROCESSES

(1) Application

(A) This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte, and Greene Counties.

(2) Definitions of terms specified in this rule may be found in 10 CSR 10-6.020

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*Variance Order for Pilot Knob Pellet Co. see NonCompliance Schedules Section. Federal Register Publication 12/13/79

(3) General Provisions

(A) This regulation applies to any operation, process, or activity except the burning of fuel for indirect heating in which the products of combustion do not come into direct contact with process materials and except the burning of refuse and except the processing of salvageable material by burning.

(B) Process weight means the total weight of all materials introduced into a source operation, including solid fuels, but excluding liquids and gases used solely as fuels, and excluding air introduced for purposes of combustion. Process weight rate means a rate established as follows:

1. For continuous or long-run steady-state source operations the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.

2. For cyclical or batch source operations, the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such period.

3. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this section, that interpretation which results in the minimum value for allowable emission shall apply.

(C) Emission tests relating to this regulation shall be made following the standards in American Society of Mechanical Engineers Powers Test-Codes- PTC-27 dates 1957 and entitles "Determining Dust Concentration in a Gas Stream."

1. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executive Secretary, Missouri Air Conservation Commission.

(4) Emission Limitations

(A) Except as provided for in Subsection (4)(B) and Section (5) of this Regulation, no person shall cause, suffer, allow, or permit the emission of particulate matter in any one hour from any source in excess of the amount shown in Table 1 for the process weight allocated to such source.

(B) The limitations established by Subsection (4)(A) of this Regulation shall not require the reduction of particulate matter concentration, based on the source gas volume, below the concentration specified in Table 2 for such volume; provided that, for the purposes of this Subsection the person responsible for the emission may elect to substitute a volume determined according to the provisions of Section (4)(C) of this Regulation, and provided further that the burden of showing the source gas volume or other volume substituted therefor, including all the factors which determine such volume and the methods of determining and computing such volume, shall be on the person seeking to come within the provisions of this Regulation.

(C) Any volume of gases passing through and leaving an air pollution abatement operation may be substituted for the source gas volume of the source operation served by such air pollution abatement operation for the purposes of Subsection (4)(B) of this Regulation provided such air pollution abatement operation emits no more than 40 percent of the weight of particulate matter entering thereto; and provided further that such substituted volume shall be corrected to standard conditions and to a moisture content no greater than that of any gas stream entering such air pollution abatement operation.

(D) Notwithstanding the provisions of Subsections 4(A) and 4(B) of this Regulation, no person may cause, allow or permit the emission of particulate matter from any source in a concentration in excess of 0.30 grain per standard cubic foot of exhaust gas.

(5) Exceptions

(A) The provisions of Subsections 4A, 4B, 4C and 4D of this Regulation shall not apply to existing grey iron jobbing cupolas. For purposes of this Regulation, a jobbing cupola is defined as a cupola which has a single melting cycle operated no more than 10 hours in any consecutive 24 hours and no more than 50 hours in any consecutive 7 days.

1. All existing grey iron jobbing cupolas shall be equipped with gas cleaning devices and so operated as to remove not less than 84% by weight of all the particulate matter in the cupola discharge gases, or release not more than 0.4 grain of particulate matter per standard cubic foot of discharge gas, whichever is more stringent.

2. All gases, vapors, and gas entrained effluents from such cupolas shall be incinerated at a temperature not less than 1200° Fahrenheit for a period of not less than 0.3 seconds.

(B) This regulation shall not apply to the emissions from:

1. Cotton gins,

2. The grinding, crushing, and classifying operations at a rock quarry,

3. The receiving and shipping of whole grain from or into a railroad or truck transportation source at a grain elevator.

4. The prolysis of wood for the production of charcoal in Missouri type charcoal kilns which were existing as of the effective date of this amendment; or which are repaired or replaced at existing charcoal facilities, providing that the cost of repair or replacement does not exceed fifty percent (50%) of the replacement cost for the entire facility, and that the repairs or kiln replacement will not result in an increase in emissions.

(6) Time Schedule for Compliance

(A) Except as otherwise specified, compliance with the provision of this regulation shall be according to the following schedule:

1. All new installations shall comply when operation begins.

2. All existing installations not in compliance as of the effective date of this regulation shall be in compliance within six months of the effective date unless the owner or person responsible for the operation of the installation shall have

submitted to the Executive Secretary in a form and manner satisfactory to him, a program and schedule for achieving compliance, such program and schedule to contain a date on or before which full compliance will be attained, and such other information as the Executive Secretary may require. If approved by the Executive Secretary, such date will be the date on which the person shall comply.

3. The Executive Secretary may require persons submitting such program to submit subsequent periodic reports on progress in achieving compliance.

TABLE I

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
Up to	Up to	Up to	16,000	8.00	16.5
			18,000	9.00	17.9
			20,000	10.	19.2
			30,000	15.	25.2
			40,000	20.	30.5
			50,000	25.	35.4
			60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000.	77.6
10,000	5.00	12.0	6,000,000	3,000.	92.7
12,000	6.00	13.6			

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation $E=4.10\ P^{0.67}$, and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:

$E=55.0\ P^{0.11}-40$, where E=rate of emission in lb/hr and
P=process weight rate in tons/hr.

TABLE 2

Source Gas Volume, SCFM[a]	Concentration GR/SCF[b]	Source Gas Volume, SCFM[a]	Concentration GR/SCF[b]
7,000 or less	0.100	140,000	0.038
8,000	0.096	160,000	0.036
9,000	0.092	180,000	0.035
10,000	0.089	200,000	0.034
20,000	0.071	300,000	0.030
30,000	0.062	400,000	0.027
40,000	0.057	500,000	0.025
50,000	0.053	600,000	0.024
60,000	0.050	800,000	0.021
80,000	0.045	1,000,000 or more	0.020
100,000	0.042		
120,000	0.040		

[a] Standard cubic foot per minute

[b] Grain per standard cubic foot

*10 CSR 10-3.060 MAXIMUM ALLOWABLE EMISSIONS OF PARTICULATE MATTER FROM FUEL BURNING EQUIPMENT USED FOR INDIRECT HEATING

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Charles, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

B. Definitions of terms specified in this rule may be found in 10 CSR 10-6.020

*Variance Order for Associated Electric Cooperative. See NonRegulatory Section Federal Register Publication 12/13/79

C. General Provisions

1. This regulation applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or air or other indirect heating of liquids, gases, or solids and, in the course of doing so, the products of combustion do not come into direct contact with process materials. Fuels include those such as coal, coke, lignite, coke breeze, gas, fuel oil, and wood, but do not include refuse. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

2. The heat content of coal shall be determined according to ASTM method D-271-64 "Laboratory Sampling and Analysis of Coal and Coke" or ASTM method D-2015-66 "Gross Caloric Value of Solid Fuel by the Adiabatic Bomb Calorimeter". The heat content of oil shall be determined according to ASTM method of D-240-64 "Heat of Combustion of Liquid Hydrocarbon by Bomb Calorimeter". The three publications cited in this subsection C-2 are hereby made part of this regulation by reference.

3. For purposes of this regulation, the heat shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or stacks. The heat input value used shall be the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater. The total heat input of all fuel burning units at a plant or on a premise shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

4. The amount of particulate matter emitted shall be measured according to the American Society of Mechanical Engineers Power Test Codes—PTC-27 dated 1957 and entitled "Determining Dust Concentrations in A Gas Stream", which publication is made a part of this regulation by reference. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executive Secretary, Missouri Air Conservation Commission.

5. Section D of this regulation shall apply only to existing sources.

6. Section E of this regulation shall apply to new sources.

D. Emission Limitations For Existing Installations

No person may cause, allow or permit the emission of particulate matter from existing installations in excess of that specified in the following schedule (see Graph I which is included for illustrative purposes only):

1. 0.60 pounds for each million BTU per hour input if the equipment has a capacity rating of 10 million or less. If the capacity rating of the fuel burning equipment is more than 10 million, the amount of particulate matter which may be emitted for each million BTU input shall decrease as the capacity rating of the fuel burning equipment increases, as follows:

   a. no more than 0.46 pounds for each million BTU input from equipment having a capacity rating of 50 million;

   b. no more than 0.40 pounds for each million BTU input from equipment having a capacity rating of 100 million;

   c. no more than 0.30 pound for each million BTU input from equipment having a capacity rating of 500 million;

   d. no more than 0.26 pounds for each million BTU input from equipment having a capacity rating of 1,000 million;

   e. no more than 0.23 pounds for each million BTU input from equipment having a capacity rating of 2,500 million;

   f. no more than 0.20 pounds for each million BTU input from equipment having a capacity rating of 5,000 million;

   g. no more than 0.19 pounds for each million BTU input from equipment having a capacity rating of 7,500 million:

   h. no more than 0.18 pounds for each million BTU input from equipment having a capacity rating of 10,000 million or more.

   The amount of particulate matter which may be emitted from fuel burning equipment having an intermediate capacity rating shall be determined either by linear interpolation, or by use of the following equation:

   $$\log Y = .23299 \quad \log X + 1.4091 \text{ (where } 10<X<10{,}000\text{)}$$

   where X represents each BTU input per hour, and Y represents the maximum allowable pounds of emissions each million BTU per hour input.

E. Emission Limitations For New Installations

After the effective date of this regulation, no person may cause, allow or permit the emission of particulate matter in excess of that specified in the following schedule (see Graph I which is included for illustrative purposes only):

1. 0.60 pounds for each million BTU per hour input if the equipment has a capacity rating of 10 million or less. If the capacity rating of the fuel burning equipment is more than 10 million,

the amount of particulate matter which may be emitted for each million BTU input shall decrease as the capacity rating of the fuel burning equipment increases, as follows:

a. no more than .348 pounds for each million BTU input from equipment having a capacity rating of 50 million;

b. no more than .275 pounds for each million BTU input from equipment having a capacity rating of 100 million;

c. no more than .159 pounds for each million BTU input from equipment having a capacity rating of 500 million;

d. no more than .126 pounds for each million BTU input from equipment having a capacity rating of 1,000 million;

e. no more than .100 pounds for each million BTU input from equipment having a capacity rating of 2,000 million or more.

The amount of particulate matter which may be emitted from fuel burning equipment having an intermediate capacity rating shall be determined either by linear interpolation, or by use of the following equation:

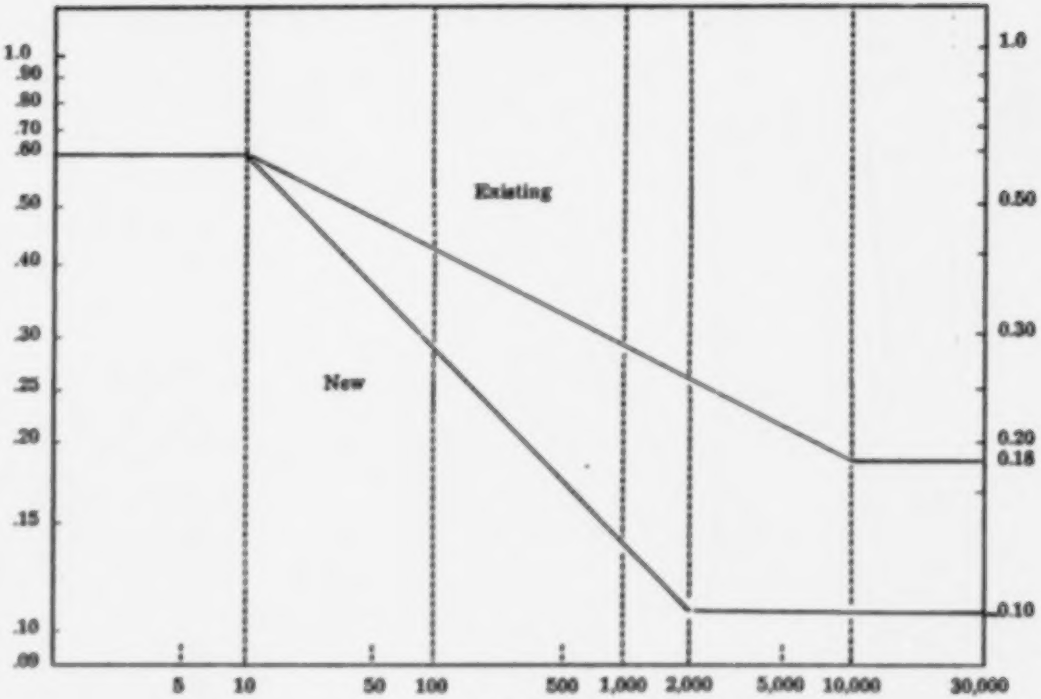
$$\log Y = .3382 \log X + 2.1454, \text{ (where } 10<X<2000\text{)}.$$

where X represents each million BTU input, and Y represents the allowable pounds of emissions.

G. Compliance schedule for existing sources—existing fuel burning equipment used for indirect heating shall be modified or rebuilt in compliance with section D in accordance with the following schedule:

Rated Capacity	Latest Date for Compliance
10,000 million BTU heat input per hour	January 1, 1972
10 million to 9,999 million BTU heat input per hour	January 1, 1973
Less than 10 million BTU heat input per hour	January 1, 1975

MAXIMUM ALLOWABLE PARTICULATE EMISSION
POUNDS PARTICULATE PER MILLION BTU HEAT INPUT



Total Heat Input—Millions of BTU Per Hour
Limitations on Emission of particulate Matter from Fuel Burning Installations
GRAPH I

10 CSR 10-3.070. RESTRICTION OF PARTICULATE MATTER FROM BECOMING AIRBORNE

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte, and Green Counties.

C. Definitions of terms specified in this rule may be found in 10 CSR 10-6.020

D. Visual Limitations for Particulate Matter Becoming Airborne

1. No person may cause or permit the handling or transporting or storage of any material in a manner which allows or may allow particulate matter, to become airborne in such quantities and concentrations that it remains visible in the ambient air beyond the premises where it orginates or that its presence may be found beyond the premises where it originates, and that it has particulate matter shown to be larger than forty (40) microns in size. The size of the particulate matter shall be determined by microscopy or any other technique approved by the Executive Secretary and proven to be equally accurate.

2. No person may cause or permit a building or its appurtenances, or a road, or a driveway, or an open area to be constructed, used, repaired or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne so that it remains visible beyond the premises where it originates or that its presence may be found beyond the premises where it originates. The Executive Secretary, Missouri Air Conservation Commission, may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including but not limited to paving or frequent cleaning of roads, driveways, and parking lots; application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover. This subsection (D-2) shall not apply to agricultural operations within a field including tilling,

planting, cultivating, or harvesting, the moving of livestock on foot, or the hauling of produce within the confines of a farm.

E. Property-line Standard Limitations for Particulate Matter Becoming Airborne

No person shall cause, suffer, or permit the emission of any particulate matter so as to cause concentrations or particulate matter at any inhabited place to exceed any one of the following:

1.	Suspended Particulates	80 micrograms/m^3	6-month geometric mean
	(High-volume Sampler)	200 micrograms/m^3	2-hour arithmetic average for not less than five two-hour sampling periods within any one year. No more than 3 samples shall be taken during any 24-hour period.
2.	Soiling Index	0.4 Coh/1000 lineal feet	6-month geometric mean
	(AISI Paper Tape sampler)	1.0 Coh/1000 lineal feet	8-hour arithmetic average

*10 CSR 10-3.080 RESTRICTION OF EMISSION OF VISIBLE AIR CONTAMINANTS

(1) Application

(A) This regulation shall apply throughout the state of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte, and Greene counties.

(2) Definitions of terms specified in this rule may be found in 10 CSR 10-6.020.

(3) Restrictions Applicable to Existing Installations

(A) No person may discharge into the ambient air from any single existing source of emission whatsoever any air containment.

1. of a shade or density equal to or darker than that designated as No. 2 on the Ringelmann Chart, or

2. of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 2 on the Ringelmann Chart.

(4) Restrictions Applicable to New Installations

(A) No person may discharge into the ambient air from any single new source of emission, whatsoever, any air contaminant

1. of a shade or density equal to or darker than that designated as No. 1 on the Ringelmann Chart, or

2. of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 1 on the Ringelmann Chart.

(5) Exceptions

(A) A person may discharge into the ambient air from any single source of emission for a period or periods aggregating not more than six minutes in any sixty minutes air contaminants

1. of a shade or density not equal to nor darker than No. 3 on the Ringelmann Chart, or

2. of such opacity as to obscure an observer's view to a degree not equal to nor greater than does smoke designated as No. 3 on the Ringelmann Chart.

*Variance Order for Associated Electric Cooperative. See NonRegulatory Section Federal Register Publication 12/13/79.

(B) For the purpose of subsection (5)(A) the executive secretary may for a specific source and for special conditions approve any other schedule.

(C) Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of section (3) or (4) of this regulation such sections shall not apply.

(D) The provisions of section (3) of this regulations shall not apply to the following:

1. Transfer of molten metals
2. Emissions from transfer ladles
3. Existing grey iron cupola furnaces

(E) This regulation shall not apply to the following:

1. Internal combustion engines
2. Wood burning stoves or fireplaces in dwellings
3. Fires used for recreational purposes or fires used for the non-commerical preparation of food by barbecuing
4. Fires used solelu for the purposes of training firemen
5. Smoke generators used for training air pollution control inspectors
6. Incinerators used to burn refuse
7. The prolysis of wood for the production of charcoal in a Missouri type charcoal kiln
8. Open burning of refuse

(6) Method of Measurement

(A) The Ringelmann Chart shall be the standard in grading the shade or opacity of visible air contaminant emissions. The executive secretary may with the consent of the source operator employ any other means of measurement which gives comparable results or results of greater accuracy.

(B) The installation of opacity monitoring devices shall be required on fluid bed catalytic cracking unit catalyst regenerators, coal-fired steam generating units with greater than 250 million BTU/hour heat input, and portland cement calcining kiln operations.

(C) Minimum Specifications

1. Performance specifications. Continuous monitoring systems for monitoring opacity shall comply with performance specification 1 as set forth in 40 CFR Part 60, Appendix B, "Performance Specification 1."

2. Cycling time. Cycling times include the total time a monitoring system requires to sample, analyze, and record an emission measurement. Continuous monitoring systems for measuring opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive ten second period.

3. Monitor location. All continuous monitoring systems or monitoring devices shall be installed such that the measurements obtained are representative measurements of emissions occurring within the discharged opacity profile.

4. Combined effluents. When the effluents from two or more affected facilities of similar design and operating characteristics are combined before being released to the atmosphere, opacity monitoring systems may be installed on the combined effluent.

5. Zero and drift. The owners and operators of all continuous monitoring systems installed in accordance with the requirements of this rule shall record the zero and drift at least once daily unless the manufacturer has recommended adjustments at shorter intervals, at which case such recommendations shall be followed and shall adjust the zero and span whenever the twenty-four hour zero drift or twenty-four hour calibration drift limits in 40 CFR Part 60, Appendix B, "Performance Specification 1" are exceeded or whenever the twnety-four hour zero drift or twenty-four hour calibration drift exceed 10% of the emission standard.

6. Span. Instrument span shall be approxmiately 200% of the expected instrument data display output corresponding to the emission standard for the source.

insert NOTE

(D) Minimum Data Requirements

1. Written reports required. Owners or operators of facilities required to install continuous monitoring systems shall submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known, to the staff director. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

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2. Data summary. The data summary shall consist of the magnitude in actual percent opacity of all six minute averages of opacity greater than the opacity emission limitation. Average of values

insert note

may be obtained by integration over the averaging period or by arithmetically averaging a minimum of twenty-four equally spaced instantaneous opacity measurements per sixty minute period (a one-hour period means any sixty minute period) commencing on the hour and a six minute period means any one of ten equal parts of a one hour period.

3. Inoperative period. The date and time identifying each period during which the continuous monitoring system was inoperative (except for zero and span checks) and the nature of system repairs or adjustments shall be reported.

4. No excess emissions. When no excess emissions have occurred during the reporting period and the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be included in the report.

5 5. Files to be maintained. Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard, for a minimum of two years from the date of collection of such data or submission of such summaries.

(E) Special Considerations

1. Alternatives. Alternative monitoring requirements, system locations, and procedures for performing calibration checks which do not meet the requirements of this rule, but adequately demonstrate a definite and consistent relationship with the intent of this rule, may be approved by the staff director.

2. Exceptions

a. Coal fired steam generating units that have an annual boiler capacity factor of 30 percent or less as currently defined by the Federal Power Commission shall be exempt from these monitoring requirements.

b. Coal fired boilers and portland cement calcining kilns scheduled for retirement prior to January 1, 1981, shall be exempt from these monitoring requirements subject to receipt and approval of an affidavit by the staff director.

c. Coal fired boilers which utilize flue gas desulfurization equipment shall be exempt from these monitoring requirements.

d. Portland cement calcining kilns whose particulate emissions are controlled with bag-houses which emit from multiple stacks or vents shall be exempt from these opacity monitoring requirements.

(F) Compliance

1. Owners or operators of affected facilities shall submit a plan for meeting the requirements of this rule to the staff director within 60 days of its effective date.

2. Notwithstanding compliance with any other provision of this rule, no owner or operator of a facility affected by this rule will be deemed to be in compliance until the compliance plan receives the written approval of the staff director.

3. Effective dates of compliance. Facilities affected by this rule shall comply within twelve months of its effective date.

(7) Time Schedule for Compliance

(A) Except as otherwise specified, compliance with the provisions of this regulation shall be according to the following time schedule:

1. All new installations shall comply when operation begins.

2. All existing installations not in compliance as of the effective date of this regulation shall be in compliance within six months of the effective date unless the owner or person responsible for the operation of the installation shall have submitted to the executive secretary in a form and manner satisfactory to him, a program and schedule for achieving compliance, such program and schedule to contain a date on or before which full compliance will be attained, and such other information as the executive secretary may require. If approved by the executive secretary, such date will be the date on which the person shall comply.

3. The executive secretary may require persons submitting such program to submit periodic subsequent reports on progress in achieving compliance.

10 CSR 10-3.090 RESTRICTION OF EMISSION OF ODORS

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis and St. Charles, St. Louis, Jefferson, Clay, Cass, Buchanan, Franklin, Ray, Jackson, Platte, and Greene Counties.

B. Restriction of Emission of Odors

No person may cause, permit or allow the emission of odorous matter in such concentrations and frequencies or for such durations that such odor can be perceived when one (1) volume of odorous air is diluted with seven (7) volumes of odor-free air for two (2) separate trials not less than 15 minutes apart within the period of one (1) hour.

C. Exceptions

The provisions of Section B of this Regulation IX shall not apply to the emission of odorous matter from the pyrolysis of wood in the production of charcoal in a Missouri type charcoal kiln.

D. Method of Measurement

Measurements may be made with s Scentometer as manufactured by the Barnebey-Cheney Company or by a similar technique that will give equivalent results, as agreed to at the time by the source operator and the Executive Secretary.

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10 CSR 10-3.100 RESTRICTION OF EMISSION OF SULFUR COMPOUNDS

(1) Application

(A) This regulation shall apply throughout the state of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte, and Greene counties.

(2) Definitions as specified in this rule may be found in 10 CSR 10-6.020.

(3) General Provisions

(A) Applicability by source category.

1. Section (4) shall apply to all emissions except those emissions from:

   a. Indirect heating sources.
   b. Existing lead smelting and/or refining sources.

2. Section (5) shall apply to all emissions from any source or sources whatsoever.

3. Section (6) shall apply to those emissions from existing lead smelting and/or refining or related activities.

(B) The method of measuring sulfur trioxide and sulfuric acid of any combination thereof in stack gases shall be specified in 10 CSR 10-6.030, Section (8) (EPA Reference Method 8).

(C) The method of measuring hydrogen sulfide in the ambient atmosphere shall be as specified in 10 CSR 10-6.040, Section (5).

(D) The method of measuring sulfur dioxide in stack gases shall be as specified in 10 CSR 10-6.030, Section (6), (EPA Reference Method 6 or 8).

(E) The method of measuring sulfur trioxide and sulfuric acid or any combination thereof suspended in the ambient atmosphere shall be as specified in 10 CSR 10-6.040, Section (6).

(F) The method of measuring sulfur dioxide in the ambient atmosphere shall be as specified in 10 CSR 10-6.040, Section (4).

(4) Concentration of Sulfur Compounds in Emissions Restricted

(A) No person shall cause or permit the emission into the atmosphere from any existing source specified in subsection (3) (A) of this regulation, gases containing more than 2,000 parts per million by volume of sulfur dioxide or 500 parts per million by volume of sulfur dioxide from any new source.

(B) No person shall cause or permit the emission into the atmosphere from any source specified in subsection (3) (A) of this regulation, gases containing more than 70 milligrams per cubic meter of sulfuric acid or sulfur trioxide or any combination thereof or 35 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof from any new source (express of sulfuric acid).

(C) Existing sources shall be modified or rebuilt in compliance with section (4) of this regulation within nine (9) months of the effective date of this regulation.

(5) Emission of Sulfur Compounds in Certain Amounts and Manner Restricted

(A) In addition to the limitations specified in Sections (4) and (6) of this rule, no person may cause or permit the emission of sulfur dioxide from any source which causes or contributes to concentrations and frequencies exceeding those specified in the following table in the ambient air at any area to which the general public has access:

Concentration*	Averaging Time	Max. Allowable Frequency
.50 ppm or more	3 hours	Once in any year
.14 ppm or more	24 hours	Once in any year
.03 ppm or more	1 year	Not to be exceeded

*Parts per million by volume

(B) No person shall cause or permit the emission of sulfuric acid or sulfur trioxide or any combination thereof from any source which causes or contributes to concentrations and frequencies exceeding those specified in the following table in the ambient air at any area to which the general public has access:

Concentration (milligrams per cubic meter at standard conditions, measured and calculated as sulfuric acid) of sulfuric acid or sulfur trioxide or any combination thereof	Averaging Time	Max. Allowable Frequency
0.03 mg/cubic meter or more	30 min. or more	Once in any 48 hours
0.01 mg/cubic meter or more	24 hours	Once in any 90 days

(C) No person shall cause or permit the emission of hydrogen sulfide from any source which causes or contributes to concentrations and frequencies exceeding those specified in the following table in the ambient air at any area to which the general public has access:

Concentration*	Averaging Time	Max. Allowable Frequency
0.03 ppm	30 minutes	Twice in any 5 consecutive days
0.05 ppm	30 minutes	Two times per year

*Parts per million by volume

(6) Emissions of Sulfur Dioxide from Existing Lead Smelters and Refineries Restricted

(A) Each of the following existing installations engaged in smelting and/or refining lead shall limit its sulfur dioxide emissions from the sources or stacks, as described hereinbelow, to the amount of sulfur dioxide set forth below:

Facility	Emission Limitation (Pounds SO_2/hr.)
ASARCO Incorporated Lead Smelter and Refinery-Glover, Missouri - two stacks:	
Sinter machine off-gas stack	20,000
Blast furnace baghouse stack	1,056
AMAX Homestake Lead Tollers Smelter and Refinery-Boss, Missouri	
Single stack	8,650

(B) Compliance with subsection (6) (A) shall be determined by source testing as referenced in 10 CSR 10-6.030, section (6), except that the source testing shall consist of averaging (3) three separate one-hour tests using the applicable testing method.

(C) ASARCO, Incorporated shall construct a new blast furnace baghouse single stack to a minimum height of 237 feet above the current stack base elevation according to the following schedule:

1. By August 31, 1979 - Complete engineering plans and submit to Department Director.
2. By November 30, 1979 - Let contracts and issue purchase orders for equipment and construction.
3. By February 29, 1980 - Commence on-site construction.
4. By December 31, 1980 - Complete construction and installation of all equipment and facilities and commence discharge of blast furnace baghouse emissions through new stack.

10 CSR 10-3.110 RULES FOR CONTROLLING EMISSIONS DURING PERIODS OF HIGH AIR POLLUTION POTENTIAL

A. General Provisions

1. This regulation shall apply to all emissions from any source or any premises

2. It may apply to all or part of the affected area depending upon which pollutant fulfills the requirements of subsection B. 2., below, and whether or not air sampling reveals only a localized problem.

B. Air Pollution Alerts and Emergencies

1. Alert and emergency level values are stated as:

   a. The product of the hourly sulfur dioxide concentration in parts per million, and the hourly particulate concentration in COH per 1,000 linear feet, or

   b. the concentrations of SO_2, CO, photochemical oxidants particulates in COHs, or NO_2.

   The basis of reference for the State of Missouri data shall be: Sulfur dioxide as measured by the continuous modified West-Gaeke method or any other method standardized against such; particulates as measured by the automatic paper-tape sampler method, "ASTM Standard Method of Test for Particulate Matter in the Atmosphere, Optical Density of Filter Deposit, D-1704-61"; carbon monoxide as measured by the infrared spectophotometer method, MSA Bulletin No. 0705-10, Instrument Division, Pittsburgh, Pennsylvania; photochemical oxidants as measured by "Analytical Methods of the 'Intersociety Committee on Methods for Ambient Air Sampling and Analyses', Health Laboratory Science, 1970."

2. Alert Values:

   a. Yellow Alert value - Any one of the following shall initiate the Yellow Alert:

      1. Product reaching 0.2 ppm at any sampling station (24 hour average).

      2. Sulfur dioxide concentration reaching 0.30 ppm at any sampling station (24 hour average).

      3. Photochemical oxidant concentration reaching 0.10 ppm at any sampling station (1 hour average).

4. Carbon monoxide concentration reaching 15 ppm at any sampling station (8 hour average).

5. Particulate concentration reaching 3 COHs (375 ug/m^3) at any sampling station (24 hour average).

6. NO$_2$ concentration reaching 0.6 ppm at any sampling station (1 hour average) 0.15 ppm (24 hour average).

b. Red Alert value - Any one of the following shall initiate the Red Alert:

1. Product reaching 0.8 ppm at any sampling station (24 hour average).

2. Sulfur dioxide concentration reaching 0.6 ppm at any sampling station (24 hour average).

3. Photochemical oxidant concentration reaching 0.4 ppm at any sampling station (1 hour average).

4. Carbon monoxide concentration reaching 30 ppm any any sampling station (8 hour average).

5. Particulate concentration reaching 5 COHs (625 ug/m^3) at any sampling station (24 hour average).

6. NO$_2$ concentration reaching 1.2 ppm at any sampling station (1 hour average) 0.3 ppm (24 hour average).

c. Emergency Alert value - Any one of the following shall initiate an Emergency Alert:

1. Product reaching 1.2 ppm at any sampling station (24 hour average).

2. Sulfur dioxide concentration reaching 0.8 ppm at any sampling station (24 hour average).

3. Photochemical oxidant concentration reaching 0.6 ppm at any sampling station (1 hour average).

4. Carbon monoxide concentration reaching 40 ppm at any sampling station (8 hour average).

5. Particulate concentration reaching 7 COHs (875 ug/m^3) at any sampling station (24 hour average).

6. NO$_2$ concentration reaching 1.6 ppm at any sampling station (1 hour average) 0.4 ppm (24 hour average).

C. Air Pollution Watch

1. Air Pollution Watch procedures shall be initiated by the Executive Secretary upon receipt of a 36 hour high air stagnation advisory from the appropriate federal weather forecasting official for an area including all or part of the affected area.

2. The following Watch procedures shall apply:

   a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Watch condition exist.

   b. Notify all affected governmental control agencies sampling Watch conditions exist, and the coordination of action is required.

   c. Increase the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 2 hours, with continual hourly review, at a central control location.

   d. Inform the general public through the news media that a high air pollution potential exists, the area or areas where high initial readings have been obtained from sampling, and encourage persons suffering from respiratory ailments or heart conditions to take whatever precautions are most appropriate.

   e. Backyard incineration, including the open burning of leaves, tree trimmings, garbage, and other refuse shall be prohibited throughout the entire affected area.

   f. All variances or permits allowing open burning shall be temporarily rendered invalid for the duration of the high air pollution potential.

   g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary shall be notifed that Watch conditions exist. All such industries shall be requested to volunarily begin actions to reduce emissions of air contaminants from their operations, consistent with the provisions of their Yellow Alert plans. See Table I.

   h. The Executive Secretary may request through the news media that the use of automobiles be restricted to necessary driving only.

D. Yellow Alert

1. Yellow Alert procedures shall be initiated by the Executive Secretary if the following conditions are met:

   a. An air stagnation advisory and the Yellow Alert values are equalled or exceeded at any one sampling station within the advisory area, unless there is a current forecast of meteorological improvement within the next 24 hours.

   b. Meteorological conditions are such that the pollutant concentrations can be expected to remain at the above levels for 12 or more hours or increase unless control actions are taken.

2. The following Yellow Alert procedures shall apply:

   a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Yellow Alert conditions exist.

   b. Notify all affected governmental control agencies that Yellow Alert conditions exist, and that coordination of action is required.

   c. Notify all hospitals within the affected area that Yellow Alert conditions exist.

   d. Increase the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1 hour, with continual hourly review at a central control location.

   e. Inform the general public through the news media that a Yellow Alert exists, the geographical area or areas where the alert is applicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respiratory ailments or heart conditions to take the most appropriate and expedient precautions.

   f. The Executive Secretary shall request very emphatically through the news media that all unnecessary use of automobiles be restricted, and that all entertainment functions and facilities be closed.

   g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Yellow Alert conditions shall initiate such plans upon notification by the Executive Secretary. See Table I.

h. No open burning will be allowed anywhere within the affected area.

E. Red Alert

1. Red Alert procedures shall be initiated by the Executive Secretary if the following requirements are met:

   a. A 36 or 24-hour high air stagnation advisory is in effect for all or part of the affected area.

   b. The Red Alert values equalled or exceeded at any one monitoring station within the area.

The Red Alert can also be initiated if:

   a. The Red Alert value is equalled or exceeded as the arithmetic mean for 12 consecutive hours, and an ASA forecasts stagnation for the following 12 hours, or

   b. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 24 consecutive hours and a forecast of stagnation for the following 12 hours is received.

2. The following Red Alert procedures shall apply:

   a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Red Alert conditions exist.

   b. Notify all affected governmental control agencies that Red Alert conditions exist and that coordination of action is required.

   c. Notify all hospitals within the affected area that Red Alert conditions exist.

   d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1 hour with continual hourly review at a central control location.

   e. Inform the general public through the news media that a Red Alert exists, the geographical area or areas where the alert is applicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respiratory ailments or heart conditions to take the most appropriate and expedient precautions.

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f. Airlines operating within the Red Alert area shall be notified that such conditions exist, and that a reduction of flights out of the airport may be required.

g. Non-local vehicular traffic may be diverted around the Red Alert area depending upon which pollutant or pollutants caused the alert.

h. Local vehicular traffic shall through the news media be told to avoid certain areas, and emphatically told to restrict non-essential trips.

i. All incineration and open burning shall cease, regardless of location.

j. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Red Alert conditions shall initiate such plans upon notification by the Executive Secretary. See Table II.

F. Air Pollution Emergency

1. Emergency procedures shall be initiated by the Executive Secretary, if the following requirements are met:

   a. A 36 or 24-hour high air stagnation advisory is in effect for all or part of the affected area.

   b. The air pollution emergency values are equalled or exceeded as the arithmetic mean of 4 consecutive hours at any one monitoring station.

The Air Pollution Emergency procedures can also be initiated if:

   a. The air pollution emergency value is equalled or exceeded as the arithmetic mean of 12 consecutive hours and a forecast of stagnation for the following 12 hours is received, or

   b. The Red Alert is equalled or exceeded as the arithmetic mean for 24 hours and a forecast of stagnation for the following 12 hours is received, or

   c. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 36 hours and a forecast of stagnation for the following 12 hours is received.

2. The following Emergency Procedures shall apply:

a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that an emergency exists.

b. Notify all affected governmental control agencies that an emergency exists, and that coordination of action is required.

c. Notify all hospitals within the affected area that an emergency exists, and to be so prepared.

d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1/2 hour with continual half-hour review at a central control location.

e. Open burning and incineration shall cease throughout the area.

f. Facilities which are sources of air contaminant emissions and are required to have filed approved plans with the Executive Secretary shall initiate such plans upon notification by the Executive Secretary or his representative that Air Pollution Emergency conditions exist. See Table III.

g. The use of motor vehicles is prohibited except in emergencies with the approval of local or state police.

h. All manufacturing facilities except those listed in F. 2. f. shall institute such action as will result in maximum reduction of air contaminants from their operations by ceasing, curtailing, or postponing operations to the extent possible without causing injury to persons or damage to equipment.

i. All airplane flights originating within the area of the Air Pollution Emergency shall be cancelled.

j. All places of employment described below shall immediately cease operation during the Air Pollution Emergency:

Mining and Quarrying
Contract Construction Work
Wholesale Trade Establishments
Schools and Libraries

Governmental Agencies except those needed to administer Air Pollution Alert Program and other essential Agencies determined by the Executive Secretary to be vital for public safety and welfare and needed to administer the provisions of these regulations.

Retail trade stores except those dealing primarily in sale of food or pharmacies.

Banks, real estate agencies, insurance offices and similar businesses.

Laundries, cleaners and dryers, beauty and barber shops and photographic studios.

Amusement and recreational service establishments such as motion picture theaters.

Automobile repair and automobile service garages.

Advertising offices, consumer credit reporting, adjustment and collection agencies, printing and duplicating services, rental agencies and commercial testing laboratories.

G. It should be made clear that an air pollution watch, yellow alert, red alert and emergency can be declared on the basis of deteriorating air quality alone; an air stanation advisory need not be in effect. The appropriate episode status should be declared by the Executive Secretary when any monitoring site records ambient air quality below that designated in the criteria.

The levels used to designate an air pollution emergency are those that pose an imminent and substantial endangerment to public health. Because these levels should not be permitted to occur, an air stagnation advisory should be declared when it appears that these levels may be reached.

H. Termination of Alerts

When in the judgement of the Executive Secretary meteorological conditions and pollutant concentrations are such to warrant discontinuance of any alert condition, he shall notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that the alert has been discontinued, and issue a public notice to that effect.

TABLE I

YELLOW ALERT PLAN OBJECTIVES

Air Contaminant Source	Requirements for Plan
1. Electric Power Generating Facilities	1a. Reduction of emission by utilization of fuels having low ash and sulfur content.
	b. Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (12:00 PM.M to 4:00 P.M.)
	c. Reduction of emissions by diverting electric power generation to facilities outside of area for which the alert is called.
2. Process Steam Generating Facilities	2a. Reduction of emissions by utilization of fuels having low ash and sulfur content.
	b. Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.)
	c. Reduction of steam load demands consistent with continuing the operation of the plant.
3. Manufacturing industries of the following (SIC) group designations Paper and Allied Products Industries-Group 26 Chemicals and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29	3a. Reduction of air contaminant emissions by curtailing, postponing, or deferring production and allied operations.
	b. Stop all trade waste disposal production which emit particles, gases, vapors or malodorous substances including incineration.
	c. Reduction of heat load demands for processing to a minimum.

Stone, Glass, Clay and Concrete Product Industries-Group 32 Primary Metals Industries -Group 33 Grain Industries -Group 20	
4. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	4a. Reduction of air contaminant emissions by curtailing or deferring production and allied operations.
	b. Stop all trade waste disposal practices which emit particles, gases, vapors or malodorous substances including incineration.
	c. Reduction of heat load demands for processing to a minimum.
5. Private, public and commercial refuse disposal operations.	5a. Stop all open burning including disposal of diseased trees and burning at fire fighting schools, except as required for disposal of hazardous materials or other emergency needs.
	b. Operation of incinerators shall be limited to the hours between 10:00 A.M. and 2:00 P.M.
6. Transportation	6a. The unnecessary operation of any motor vehicle should be restricted.

TABLE II

RED ALERT PLAN OBJECTIVES

All Yellow ert plans shall be continued. In addition, the following steps shall be taken:

Air Contaminant Source	Requirements for Plan
1. Process steam generating facilities	1a. Maximum reduction of air contaminant emissions by utilization of fuels having

	the lowest ash and sulfur content.
	b. Maximum utilization of periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.) for soot blowing and boiler lancing.
	c. Prepare to implement the "emergency" plan submitted to the Executive Secretary.
2. Manufacturing industries of the following SIC Group designations Paper and Allied Products Industries-Group 26 Chemical and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29 Stone, Glass, Clay and Concrete Product Industries-Group 32 Primary Metals Industries -Group 33 Grain Industries-Group 20	2a. Maximum reduction of air contaminant emission by, if necessary, postponing production and allied operations
	b. Maximum reduction of heat load demands for processing.
	c. Prepare to implement the "emergency" plan submitted to the Executive Secretary.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	3a. Maximum reduction of air contaminant emissions by, if necessary, postponing production and allied operations.
4. Private, public and commercial refuse disposal operations.	4a. Stop operation of all incinerators.
5. Transportation	5a. Car pools and public transportation must be used in place of unnecessary motor vehicle operation.

TABLE III

AIR POLLUTION EMERGENCY PLAN OBJECTIVES

Air Contaminant Source	Requirements for Plan

All Yellow and Red Alert plans shall be continued. In addition, the following steps shall be taken:

1. Process steam generating facilities	1a. Maximum reduction of air contaminant emissions by reducing heat and steam load demands to values consistent with preventing equipment damage. b. Maximum utilization periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.) for soot blowing and boiler lancing.
2. Manufacturing industries of the following SIC Group designations Paper and Allied Products Industries-Group 26 Chemicals and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29 Stone, Glass, and Clay and Concrete Product Industries-Group 32 Primary Metal Industries-Group 33 Grain Industries-Group 23	2a. Elimination of air contaminant emission from the manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	3a. Elimination of air contaminant emissions from the manufacturing operations by ceasing, curtailing postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment. b. Maximum reduction of heat load demands for processing.
4. Private, public and commercial operations.	4a. The following places of employment, if notified by the Executive Secretary, shall immediately cease operations:

	1. Mining and quarrying operations. 2. Construction projects except as required to avoid emergent physical harm. 3. Manufacturing establishments except those required to have in force an air pollution alert plan. 4. Wholesale trade establishments. 5. Governmental units, except as required to implement the provisions of these regulations and other operations essential to immediate protection of the public welfare and safety. 6. Retail trade and service establishments except pharmacies, food stores and other similar operations providing for emergency needs. 7. Other commercial service operations such as those engaged in banking, insurance real estate, advertising, etc. 8. Educational institutions. 9. Amusement and recreational facilities.
5. Transportation	5a. Motor vehicles shall only be used for private and public emergency needs.

10 CSR 10-3.120 PUBLIC AVAILABILITY OF EMISSION DATA

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

B. General

Emission data obtained from owners or operators of emission sources will be correlated with applicable emission limitations and other control measures, and will be made available to the public upon request.

10 CSR 10-3.130 SUBMISSION OF EMISSION INFORMATION

A. Application

This regulation shall apply throughout the State of Missouri except in the City of St. Louis, and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Green Counties.

B. General Provisions

1. The owner or operator of any source shall, upon notification from the Executive Secretary, maintain records of the nature and amounts of emissions from such source and/or any other information as may be deemed necessary by the Executive Secretary to determine whether such source is in compliance with applicable emission limitations or other control measures.

2. The information recorded shall be reported to the Executive Secretary on a semiannual basis commencing with the first full semiannual period after the Executive Secretary's notification to such owner or operator of the record-keeping requirements. The semiannual periods are January 1 to June 30 and July 1 to December 31, except that the initial reporting period shall commence on the date the Executive Secretary issues notification of the record-keeping requirements.

3. The records required by this regulation shall be completed on forms furnished by or satisfactory to the Executive Secretary, and shall be submitted within 45 days after the end of each reporting period.

4. All information collected or recorded in accordance with the provisions of this regulation shall be retained by the owner or operator for two (2) years after the date on which the pertinent report is submitted.

10 CSR 10-3.140 (Outstate Missouri Area) "New Source Performance Standards".

A. This regulation shall apply throughout the State of Missouri except in the City of St. Louis and Franklin, Jefferson, St. Charles, St. Louis, Clay, Cass, Buchanan, Ray, Jackson, Platte, and Greene Counties.

B. The provisions of 40 Codified Federal Register (CFR), Part 60 as of the effective date of this regulation shall apply and are adopted by reference as part of this regulation.

C. In any situation, the emission limitations imposed by this regulation and all existing regulations for the State of Missouri shall be assessed and the more restrictive limitation shall apply.

10 CSR 10-4.030 RESTRICTION OF EMISSION OF PARTICULATE MATTER FROM INDUSTRIAL PROCESSES

1. General Provisions

(A) This regulation applies to any operation, process, or activity except the burning of fuel for indirect heating in which the products of combustion do not come into direct contact with process materials and except the burning of refuse and except the processing of salvageable material by burning.

(B) Process weight means the total weight of all materials into a source operation, including solid fuels, but excluding liquids and gases used solely as fuels, and excluding air introduced for purposes of combustion.

1. Process weight rate means a rate established as follows:

a. For continuous or long-run steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.

b. For cyclical or batch source operations, the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such period.

2. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this section, that interpretation which results in the minimum value for allowable emission whall apply.

(C) Emission tests relating to this regulation shall be made following the standards in Amercian Society of Mechanical Engineers Power Test Codes-PTC-27 dated 1957 and entitled "Determining Dust Concentration in A Gas Stream".

1. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executive Secretary.

(2) Emission Limitations

(A) Except as provided for in Subsection (2)(B) and Section (3) of this Regulation II, no person shall cause, suffer, allow, or permit the emission of particulate matter in any one hour from any source in excess of the amount shown in Table 1 for the process weight allocated to such source.

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(B) The limitations established by subsection (2)(A) of this regulation shall not require the reduction of particulate matter concentration, based on the source gas volume, below the concentration specified in paragraph (2) (B) 1. for such volume; provided that, for the purposes of this subsection (2) (B) the person responsible for the emission may elect to substitute a volume determined according to the provisions of subsection (2) (C) of this regulation and provided firther that the burden of showing the source gas volume or other volume substituted therefor, including all the factors which determine such volume and the methods of determining and computing such volume, shall be on the person seeking to come within the provisions of this section.

(C) Any volume of gases passing through and leaving an air pollution abatement operation may be substituted for the source gas volume of the source operation served by such air pollution abatement operation, for the purposes of Subsection (2)(B) of this Regulation II provided such air pollution abatement operation emits no more than 40 percent of the weight of particulate matter entering thereto; and provided further that such substituted volume shall be corrected to standard conditions and to a moisture content no greater than that of any gas stream entering such air pollution abatement operation.

(D) Notwithstanding the provisions of Subsections 2(A) and 2(B) pf this Regulation, no person may cause, allow or permit the emission of particulate matter from any source in a concentration in excess of 0.30 grain per standard cubic foot of exhaust gas.

(3) Exceptions

(A) The provisions of Subsections 2(A), 2(B), 2(C), and 2(D) of this Regulation II shall not apply to existing grey iron cupolas which have a single melting cycle operated no more than 12 hours in any consecutive 24 hours and no more than 60 hours in any consecutive 7 days.

1. All existing grey iron cupolas shall be equipped with gas cleaning devices and so operated as to remove not less than 85% weight of all the particulate matter in the cupola discharge gases, or release not more than 0.4 grain of particulate matter per standard cubic foot of discharge gas, whichever is more stringent.

2. All gases, vapors, and gas entrained effluents from such cupolas shall be incinerated at a temperature not less than 1200° Fahrenheit for a period of not less than 0.3 seconds.

(B) This regulation shall not apply to the emissions from

1. the grinding, crushing, and classifying operations at a rock quarry; or
2. the receiving and shipping of whole grain from or into a railroad or truck transportation source at a grain elevator.

Table 1

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58	50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000.	77.6
10,000	5.00	12.0	6,000,000	3,000.	92.7
12,000	6.00	13.6			

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation $E = 4.10\ P^{0.67}$, and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:

$E=55.0\ P^{0.11} - 40$, where E= rate of emission in lb/hr and
P=process weight rate in tons/hr.

Table 2

Source Gas Volume, SCFM †	Concentration GR/SCF††	Source Gas Volume, SCFM †	Concentration GR/SCF††
7,000	0.100	140,000	0.038
or less		160,000	0.036
8,000	0.096	180,000	0.035
9,000	0.092		
		200,000	0.034
10,000	0.089	300,000	0.030
20,000	0.071	400,000	0.027
30,000	0.062		
		500,000	0.025
40,000	0.057	600,000	0.024

Table 2 Continued

Source Gas Volume, SCFM†	Concentration GR/SCF††	Source Gas Volume , SCFM †	Concentration GR/SCF††
50,000	0.053	800,000	0.021
60,000	0.050		
		1,000,000	0.020
80,000	0.045	or more	
100,000	0.042		
120,000	0.040		

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†Standard cubic foot per minute
††Grain per standard cubic foot

10 CSR 10-4.040 MAXIMUM ALLOWABLE EMISSION OF PARTICULATE MATTER FROM FUEL BURNING EQUIPMENT USED FOR INDIRECT HEATING

A. General Provisions

1. This Regulation III applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or hot air or other indirect heating of liquids, gases, or solids and, in the course of doing so, the products of combustion do not come into direct contact with process materials. Fuels include those such as coal, coke, lignite, coke breeze, gas, fuel oil, and wood, but do not include refuse. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

2. The heat content of coal shall be determined according to ASTM method D-271-68 "Laboratory Sampling and Analysis of Coal and Coke" or ASTM method D-2015-66 "Gross Caloric Value of Solid Fuel by the Adiabatic Bomb Calorimeter". The heat content of oil shall be determined according to ASTM method D-240-64 "Heat of Combustion of Liquid Hydrocarbons by Bomb Calorimeter". The three publications cited in this Subsection A (2) are hereby made part of this Regulation III by reference.

3. For purposes of this Regulation III, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or stacks. The heat input value used shall be the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater. The total heat input of all fuel burning units at a plant or on a premise shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

4. The amount of particulate matter emitted shall be measured according to the American Society of Mechanical Engineers Power Test Codes-PTC-27 dated 1957 and entitled "Determining Dust Concentration in a Gas Stream", which publication is made a part of this Regulation III by reference. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executive Secretary.

B. Emission Limitations

No person may cause, allow or permit the emission of particulate matter in excess of that specified in the following schedule (see Graph I which is included for illustrative purposes only):

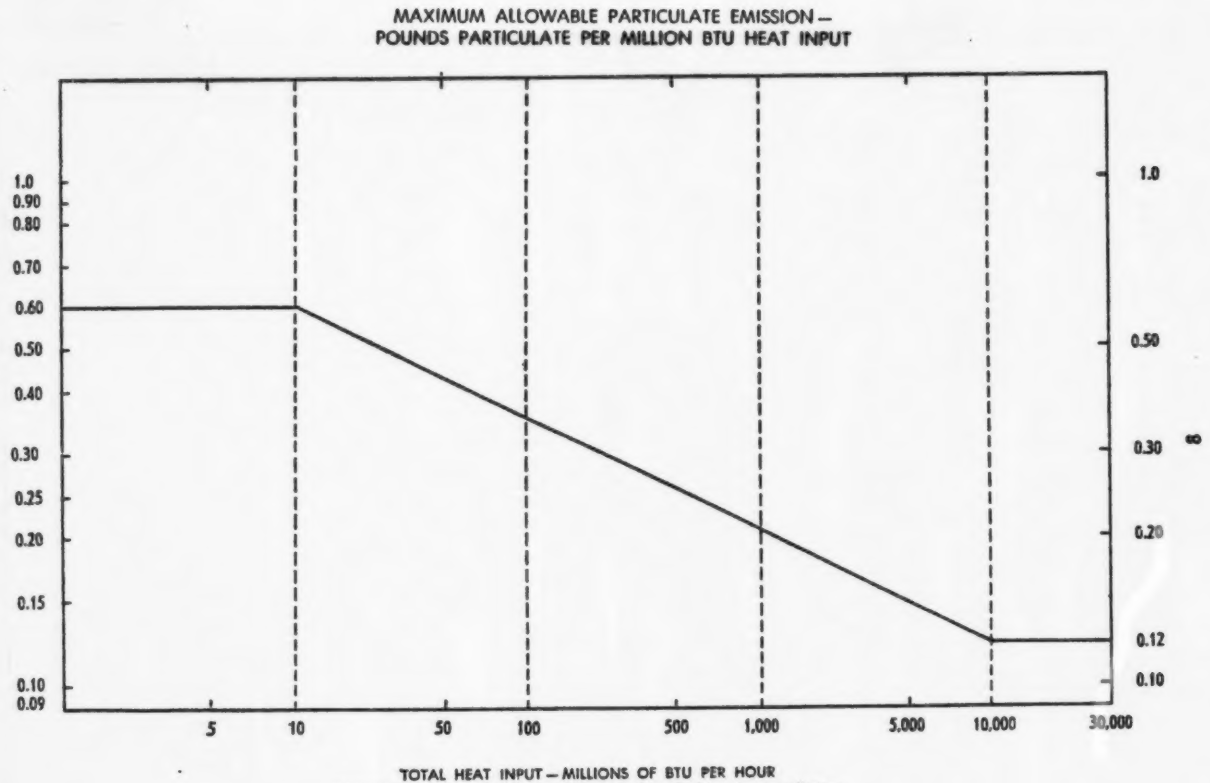
1. 0.60 pounds for each million BTU per hour input if the equipment has a capacity rating of 10 million or less. If the capacity rating of the fuel burning equipment is more than 10 million, the amount of particulate matter which may be emitted for each million BTU input shall decrease as the capacity rating of the fuel burning equipment increases, as follows:

   a. no more than 0.41 pounds for each million BTU input from equipment having a capacity rating of 50 million;
   b. no more than 0.35 pounds for each million BTU input from equipment having a capacity rating of 100 million;
   c. no more than 0.24 pounds for each million BTU input from equipment having a capacity rating of 500 million;
   d. no more than 0.21 pounds for each million BTU input from equipment having a capacity rating of 1,000 million;
   e. no more than 0.17 pounds for each million BTU input from equipment having a capacity rating of 2,000 million;
   f. no more than 0.14 pounds for each million BTU input from equipment having a capacity rating of 5,000 million;
   g. no more than 0.13 pounds for each million BTU input from equipment having a capacity rating of 7,500 million;
   h. no more than 0.12 pounds for each million BTU input from equipment having a capacity rating of 10,000 million or more.

   The amount of particulate matter which may be emitted from fuel burning equipment having an intermediate capacity rating shall be determined either by linear interpolation, or by use of the following equation:

   $$\log Y = 0.2330 \log X - 2.0111$$

   where X represents each million BTU input, and Y represents the allowable pounds of emissions.



Limitations on emission of particulate matter from fuel burning installations
GRAPH I

12 III

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10 CSR 10-4.050 PREVENTING PARTICULATE MATTER FROM BECOMING AIRBORNE

A. No person may cause or permit the handling or transporting or storage of any material in a manner which allows or may allow particulate matter to become air-borne in such quantities and concentrations that it remains visible in the ambient air beyond the premises where it originates and which results in at least one complaint being filed with the Executive Secretary.

B. No person may cause or permit a building or its appurtenances or a road, or a driveway, or an open area to be constructed, used, repaired or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne so that it remains visible beyond the premises where it originates. The Executive Secretary may require as a result of a complaint such reasonable measures as may be necessary to prevent particulate matter from becoming air-borne including but not limited to paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover.

C. Exceptions - Regulation IV shall not apply to the following:

1. Public roads
2. Agricultural operations including tilling, planting, cultivating, or harvesting within a field, the moving of livestock on foot, or the hauling of produce within the confines of a farm.
3. Driveways limited to residential use.

10 CSR 10-4.060 RESTRICTIONS OF EMISSION OF VISIBLE AIR CONTAMINANTS

(1) Restrictions Applicable to Existing Installations

(A) No person may discharge into the ambient air from any single existing source of emission whatsoever any air contaminant 1 of a shade or density equal to or darker than that designated as No. 2 on the Ringelmann Chart, or 2 of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 2 on the Ringelmann Chart.

(2) Restrictions Applicable to New Installations

(A) No person may discharge into the air from any single new source of emission whatsoever, any air contaminant 1 of a shade or density equal to or darker than that designated as No. 1 on the Ringelmann Chart, or 2 of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 1 on the Ringelmann Chart.

(3) Exceptions

(A) A person may discharge into the ambient air from any single source of emission for a period or periods aggregating not more than six minutes in any sixty minutes air contaminants 1 of a shade or density not equal to nor darker than No. 3 on the Ringelmann Chart, or 2 of such opacity as to obscure an observer's view to a degree not equal to nor greater than does smoke designated as No. 3 on the Ringelmann Chart.

(B) For the purposes of this Subsection 3(A) the Executive Secretary may for a specific source and for special conditions approve any other schedule.

(C) Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of Section (1) or (2) of this Regulation, such sections shall not apply.

(D) The provisions of Section (1) of this Regulation shall not apply to the following:

a. Transfer of molten metals

b. Emissions from transfer ladles

c. Existing grey iron cupolas as defined in 10 CSR 10-4.030

(E) This Regulation shall not apply during emergency conditions, provided that the Executive Secretary is notified, or to the following:

a. Internal combustion engines

b. Wood burning stoves or fireplaces in dwellings

c. Fires used for recreational purposes or fires used for the non-commercial preparation of food by barbecuing

d. Fires used solely for the purpose of training firemen

e. Smoke generators used for training air pollution control inspectors.

(F) This Section 3 shall not apply to incinerators.

(4) Method of Measurement

(A) The Ringelmann Chart shall be the standard in grading the shade or opacity of visible air contaminant emissions. The executive secretary may with the consent of the source operator employ any other means of measurement which gives comparable results or results of greater accuracy.

(B) The installation of opacity monitoring devices shall be required on fluid bed catalytic cracking unit catalyst regenerators, coal-fired steam generating units with greater than 250 million BTU/hour heat input, and portland cement calcining kiln operations.

(C) Minimum Specifications

1. Performance specifications. Continuous monitoring systems for monitoring opacity shall comply with performance specification 1 as set forth in 40 CFR Part 60, Appendix B, "Performance Specification 1."

2. Cycling time. Cycling times include the total time a monitoring system requires to sample, analyze, and record an emission measurement. Continuous monitoring systems for measuring opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive ten second period.

3. Monitor location. All continuous monitoring systems or monitoring devices shall be installed such that the measurements obtained are representative measurements of emissions occurring within the discharged opacity profile.

4. Combined effluents. When the effluents from two or more affected facilities of similar design and operating characteristics are combined before being released to the atmosphere, opacity monitoring systems may be installed on the combined effluent.

5. Zero and drift. The owners and operators of all continuous monitoring systems installed in accordance with the requirements of this rule shall record the zero and drift at least once daily unless the manufacturer has recommended adjustments at shorter intervals, at which case such recommendations shall be followed and shall adjust the zero drift or twenty-four hour zero drift or twenty-four hour calibration drift limits in 40 CFR Part 60, Appendix B, "Performance Specification 1" are exceeded or whenever the twnety-four hour zero drift or twenty-four hour calibration drift exceed 10% of the emission standard.

6. Span. Instrument span shall be approxmiately 200% of the expected instrument data display output corresponding to the emission standard for the source.

(D) Minimum Data Requirements

1. Written reports required. Owners or operators of facilities required to install continuous monitoring systems shall submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known,to the staff director. All auarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

2. Data summary. The data summary shall consist of the magnitude in actual percent opacity of all six minute averages of opacity greater than the opacity emission limitation. Average of values

may be obtained by integration over the averaging period or by arithmetically averaging a minimum of twenty-four equally spaced instantaneous opacity measurements per sixty minute period commencing on the hour and a six minute period means any one of ten equal parts of a one hour period.

3. Inoperative period. The date and time identifying each period during which the continuous monitoring system was inoperative (except for zero and span checks) and the nature of system repairs or adjustments shall be reported.

4. No excess emissions. When no excess emissions have occurred during the reporting period and the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be included in the report.

4. Files to be maintained. Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard, for a minimum of two years from the date of collection of such data or submission of such summaries.

(E) Special Considerations

1. Alternatives. Alternative monitoring requirements, system locations, and procedures for performing calibration checks whch do not meet the requirements of this rule, but adequately demonstrate a definite and consistent relationship with the intent of this rule, may be approved by the staff director.

2. Exceptions

a. Coal fired steam generating units that have an annual boiler capacity factor pf 30 percent or less as currently defined by the Federal Power Commission shal be exempt from these monitoring requirements.

b. Coal fired boilers and portland cement calcining kilns scheduled for retirement prior to January 1, 1981, shall be exempt from these monitoring requirements subject to receipt and approval of an affidavit by the staff director.

c. Coal fired boilers which utilize flue gas desulfurization equipment shall be exempt from these monitoring requirements.

d. Portland cement calcining kilns whose particulate emissions are controlled with bag-houses which emit from multiple stacks or vents shall be exempt from these opacity monitoring requirements.

(F) Compliance

1. Owners or operators of affected facilities shall submit a plan for meeting the requirements of this rule to the staff director within 60 days of its effective date.

2. Notwithstanding compliance with any other provision of this rule, no owner or operator of a facility affected by this rule will be deemed to be in compliance until the compliance plan receives the written approval of the staff director.

3. Effective dates of compliance. Facilities affected by this rule shall comply within twelve months of its effective date.

(7) Time Schedule for Compliance

(A) Except as ottherwise specified, compliance with the provisions of this regulation shall be according to the following time schedule:

1. All new installations shall comply when operation begins.

2. All existing installations not in compliance as of the effective date of this regulation shall be in compliance within six months of the effective date unless the owner or person responsible for the operation of the installation shall have submitted to the executive secretary in a form and manner satisfactory to him, a program and schedule for achieving compliance, such program and schedule to contain a date on or before which full compliance will be attained, and such other information as the executive secretary may require. If approved by the executive secretary, such date will be the date on which the person shall comply.

3. The executive secretary may require persons submitting such program to submit periodic subsequent reports on progress in achieving compliance.

10 CSR 10-4.070 RESTRICTION OF EMISSION OF ODORS

No person may cause, permit or allow the emission of odorous matter in such concentrations and frequencies or for such durations that such odor can be preceived when one (1) volume of odorous air is diluted with seven (7) volumes of odor-free air for two (2) separate trials not less than 15 minutes apart within the period of one (1) hour.

These measurements may be made with a Scentometer as manufactured by the Barnebey-Cheney Company or by a similar technique that will give equivalent results, as agreed to at the time by the source operator and the Executive Secretary.

10 CSR 10-4.080 INCINERATORS

A. General Provisions

1. This Regulation VII shall apply to all incinerators except those situated on residential premises in the area zoned A-1 Agricultural District and used exclusively to dispose of refuse originating on that same premises.

2. The burning capacity of an incinerator shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the Executive Secretary in accordance with good engineering practice. In case of conflict, the findings of the Executive Secretary shall govern.

3. No incinerator shall be used for the burning of refuse unless such incinerator is a multiple chamber incinerator. Existing incinerators which are not multiple chamber incinerators may be altered, modified or rebuilt as may be necessary to meet this requirement. The Executive Secretary may approve any other alteration or modification to an existing incinerator if such be found by him to be equally effective for the purpose of air pollution control as a modification or alteration which would result in a multiple chamber incinerator. All new incinerators shall be multiple chamber incinerators, provided that the Executive Secretary shall approve any other kind of incinerator if it can be shown in advance of construction or installation

that such other kind of incinerator is equally effective for purposes of air pollution control as an approved multiple chamber incinerator.

4. Within thirty (30) days after the date on which construction of an incinerator is completed, the operator shall file a request with the Executive Secretary to schedule the performance tests provided in Section C of this Regulation VII. If the results of the performance tests indicate that the incinerator is not operating in compliance with Section B of this Regulation VII, no person may cause or permit further operation of the incinerator, except for additional tests as outlined in Section C of this Regulation VII, until approval is received from the Executive Secretary.

B. Restriction of Emissions from Incinerators

1. No person may cause or permit the emission of particulate matter from the chimney, stack or vent of any incinerator in excess of the following:

    a. Incinerators with a refuse burning capacity of 200 or more pounds per hour: 0.2 grains of particulate matter per standard dry cubic foot of exhaust gas, corrected to 12 percent (12%) carbon dioxide.

    b. All other incinerators: 0.3 grains of particulate matter per standard dry cubic foot of exhaust gas, corrected to 12 percent (12%) carbon dioxide.

2. All incinerators shall be designed and operated so that all gases, vapors and entrained effluents shall, while passing through the final combustion chamber, be maintained at a temperature adequate to prevent the emission of objectionable odors. Provided, however, that the Executive Secretary shall approve any other method of odor control which is equally effective.

C. Performance Testing

1. Refuse burned in conjunction with the performance tests specified in this regulation shall be a representative sample of the refuse normally generated by the operation which the incinerator is intended to serve.

2. The amount of particulate matter emitted from any incinerator shall be determined according to the American Society of Mechanical Engineers Power Test Codes - PTC-27 dated 1957 and entitled "Determining Dust Concentration in a Gas Stream". This publica-

tion is hereby made a part of this Regulation by reference. Any other method which is in accordance with good professional practice may be used by mutual consent of the source operator and the Executive Secretary. In calculating the amount of particulate matter in stack gas, the loading shall be adjusted to twelve percent (12%) carbon dioxide in the stack gas. The carbon dioxide produced by burning of the liquid or gaseous fuel in the incinerator shall be excluded from the calculation to twelve percent (12%) carbon dioxide. Emissions shall be measured when the incinerator is operating at the burning capacity as defined in Section A (2) of this Regulation, or at any greater operating rate requested by the source operator.

3. A performance test to determine compliance with the Ringelmann requirements specified in Regulation 10 CSR 10-4.060 of these rules shall be performed by the Executive Secretary or his designated representative on

   each new incinerator, and

   each existing incinerator modified or rebuilt according to the schedule outlined in Section D of this Regulation.

4. The performance test specified in Subsection C (2) of this Regulation may be required on any incinerator, and shall be required for each new incinerator having a burning capacity of 1,000 pounds per hour or greater. The initial performance test shall be performed at the expense of the vendor or operator by an independent testing organization or by any other qualified person subject to the approval of the Executive Secretary. The performance test may be observed by the Executive Secretary or his designated representative.

D. Compliance Schedule for Existing Incinerators

Existing incinerators which are not multiple chamber incinerators and do not otherwise meet the requirements of Section B of this Regulation shall be modified or rebuilt in compliance with this Section in accordance with the following schedule:

Rated Capacity	Latest Date for Compliance
1,000 lbs/hr or above	18 months from the effective date of this regulation
999 lbs/hr or less	30 months from the effective date of this regulation

10 CSR 10-4.090 OPEN BURNING RESTRICTIONS

A. Refuse Burning Restrictions

On and after January 1, 1970 no person may conduct, cause, permit, or allow open burning of refuse.

B. Prohibition of Salvage Operations by Open Burning

On and after July 29, 1970 no person may conduct, cause, permit, or allow a salvage operation by open burning.

C. Restrictions on Open Burning of Trade Wastes

On and after January 13, 1970 no person may conduct, cause, permit, or allow, the disposal of trade wastes by open burning.

D. Exceptions

1. Open burning of household refuse originating from a residence of fewer than five dwelling units shall not be in violation of Section A of this Regulation, provided that such burning takes place on the premises where the refuse originates, and provided further that such burning takes place outside the corporate limits of Springfield and only within areas zoned A-1, Agricultural District.

2. The open burning of trade wastes and vegetation may be permitted only when it can be shown that such open burning is the only feasible method of disposal and that disposal is in the public interest. Any person intending to engage in such open burning shall file a request to do so with the Executive Secretary. The application shall state the following:

    a. The name, address, and telephone number of the person submitting the application.

    b. The type of business or activity involved.

    c. A description of the proposed equivalent and operating practices, the type, quantity, and composition of material to be burned, and the expected composition and amount of air contaminants to be released to the atmosphere, where known.

    d. The schedule of burning operations.

    e. The exact location where the open burning will occur.

    f. Reasons why open burning is the only feasible method of disposal and why disposal is in the public interest.

g. Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction. Upon approval of the application by the Executive Secretary, the person may proceed with the operation without being in violation of Section A or C of this Regulation VIII, but such approval shall not exempt the applicant from the provisions of any other law, ordinance or regulation.

3. The open burning of tree trunks, tree limbs, vegetation, or untreated waste lumber shall not be a violation of this Regulation VIII, when such burning takes place at the site of a disposal area licensed for that purpose under the provisions of Section 64.470, RSMo, or at any other site approved by the Executive Secretary.

4. This Regulation shall not apply to the following:

   a. Fires set in connection with agricultural operations related to the growing or harvesting of crops.

   b. Fires set for the purpose of instructing and training firemen in the methods of fighting fires.

   c. Fires used for recreational purposes, or fires used for the non-commercial preparation of food such as by barbecuing.

10 CSR 10-4.100 APPROVAL OF PLANNED INSTALLATIONS REQUIRED

A. The building department or other office responsible in any political subdivision within the metropolitan area shall not issue a permit for the erection, construction, reconstruction, alteration or occupancy of any building or structure when the plans and specifications for such structure or occupancy include any fuel-burning or refuse-burning device, or the occupancy of any building for industrial purposes, until such plans and specifications have been submitted to the Executive Secretary and approved by him within 60 days as making adequate provisions for meeting the requirements of these regulations.

B. The filing of plans and specifications with the Executive Secretary shall not be required for any of the following:

   1. Oil fired fuel-burning equipment burning No. 1 or No. 2 fuel oil exclusively.

   2. Gas fired fuel burning equipment.

3. Solid fuel and residual fuel oil fired fuel burning equipment when the maximum heat input from such fuel will not exceed 350,000 BTU per hour.

10 CSR 10-4.110 MEASUREMENT OF EMISSIONS OF AIR CONTAMINANTS

Executive Secretary May Make Tests

The Executive Secretary may conduct tests of emissions of air contaminants from any source. Upon request of the Executive Secretary, the person responsible for the source to be tested shall provide necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.

10 CSR 10-4.120 SUBMISSION OF EMISSION INFORMATION--AUTHORITY

The Executive Secretary may require the submission of information from any or all potential sources for purposes of maintaining an emission inventory.

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10 CSR 10-4.130 CIRCUMVENTION

No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. This regulation shall not apply when the only violation involved is violation of a regulation based on concentration or presence of one or more air contaminants at locations beyond the premises on which a source or sources are located.

10 CSR 10-4.140 TIME SCHEDULE FOR COMPLIANCE

Except as otherwise specified, compliance with the provisions of these regulations shall be according to the following time schedule:

A. All new installations shall comply as of going into operation.

B. All existing installations not in compliance as of the effective date of these regulations shall be in compliance within six months of the effective date unless the owner or person responsible for the operation of the installation shall have submitted to the Executive Secretary in a form and manner satisfactory to him, a program and schedule for achieving compliance, such program and schedule to contain a date on or before which full compliance will be attained, and such other information as the Executive Secretary may require. If approved by the Executive Secretary, such date will be the date on which the person shall comply.

The Executive Secretary may require persons submitting such program to submit subsequent periodic reports on progress in achieving compliance.

10 CSR 10-4.150 RESTRICTION OF EMISSION OF SULFUR COMPOUNDS

A. Definitions as specified in this rule may be found in 10 CSR 10-6.020

B. General Provisions

1. Section C of this regulation shall apply to all emissions except those in which both

    a. fuel is burned primarily to produce heat and

    b. the sulfur compound emission is due primarily to the sulfur in the fuel burned.

2. Sections D and E shall apply to all emissions from any source or sources whatsoever.

3. The method of measuring sulfur trioxide and sulfuric acid or any combination thereof in stack gases shall be:

    Particulates (H_2SO_4--Acid Mists)

    "Atmospheric Emissions from Sulfuric Acid Manufacturing Processes"

    Ref. Public Health Service Publication 999-AP-13 (1965) Appendix B, Page 61-6 (Modified Monsanto Co. Method)[a]

    Gaseous (SO_3-SO_2)

    "Atmospheric Emissions from Sulfuric Acid Manufacturing Processes"

    Ref. Public Health Service Publication 999-AP-13 (1965) Appendix B, Page 85-7 (Shell Development Co. Method)[b]

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[a] Secondary reference for industrial emission sampling and analysis for particulates (sulfuric acid--acid mists) W. F. Patton, J. A. Brink "New Equipment and Techniques for Sampling Chemical Process Cases." J. Air Pollution Control Association 13, 162-66 (April 1963).

[b] Secondary reference for industrial emission sampling and analysis for gases (sulfur trioxide and sulfur dioxide) "Determination of Sulfur Dioxide and Sulfur Trioxide in Stack Gases," Emeryville Method Ser. 4S16/59a. Anal. Dept. Shell Development Co., Emeryville, California (1959).

4. The method of measuring hydrogen sulfide in the ambient atmosphere shall be:

   Lead-Acetate-Impregnated Filter Paper Procedure

   Ref. Sensenbaugh, J. D. and Hemeon, W. C. L.: A Low Cost Sampler for Measurement of Low Concentration of Hydrogen Sulfide. Air Repair 4:5 (May 1954)

5. The method of measuring sulfur dioxide in stack gases shall be:

   Gaseous (SO_3-SO_2)

   "Atmospheric Emissions from Sulfuric Acid Manufacturing Processes"

   Ref. Public Health Service Publication 999-AP-13 (1965) Appendix B, Page 85-7 (Shell Development Co. Method)

6. The method of measuring sulfur trioxide and sulfuric acid or any combination thereof suspended in the ambient atmosphere shall be:

   Particulate (H_2SO_4)

   Ref. B. T. Commins, "Determination of Particulate Acid in Town Air,"

   Analyst, 88, 364-67 (May 1963)

7. The method of measuring sulfur dioxide in the ambient atmosphere shall be:

   Gaseous (SO_2) colorimetric

   Ref. "Selected Methods for the Measurement of Air Pollutants"
   Public Health Service Publication No. 999-AP-11 (May 1965)
   "Determination of Sulfur Dioxide: West Gaeke Method"
   Page A1-5

   Gaseous (SO_2) conductimetric

   Ref. "ASTM Standards on Methods of Atmospheric Sampling and Analysis"
   2nd edition, Method D 1355-60, Method A, Page 11

8. Other test methods approved by the Executive Secretary may be used. The publications describing methods of measurement specified in this Section are hereby made a part of this regulation by reference.

C. Concentration of Sulfur Compounds in Emissions Restricted

1. No person shall cause or permit the emission into the atmosphere from any existing source specified in subsection B (1) of this regulation, gases containing more than 2,000 parts per million by volume of sulfur dioxide or 500 parts per million by volume of sulfur dioxide from any new source.

2. No person shall cause or permit the emission into the atmosphere from any source specified in subsection B (1) of this regulation, gases containing more than 70 milligrams per cubic meter of sulfuric acid or sulfur trioxide or any combination thereof or 35 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof from any new source (expressed as sulfuric acid).

3. Existing sources shall be modified or rebuilt in compliance with Section C of this Regulation XIV within nine (9) months of the effective date of this regulation.

D. Emission of Sulfur Compounds in Certain Amounts and Manner Restricted

1. No person may cause or permit the emission of sulfur dioxide from any source in excess of one thousand (1,000) pounds per hour except when such emissions do not cause or contribute to concentrations and frequencies exceeding those specified in the following table in the ambient air at any occupied place beyond the premises on which the source is located:

Concentration[a]	Averaging Time	Maximum Allowable Frequency
.25 ppm or more	1 hour	Once in any 4 days at any sampling site
.07 ppm or more	24 hour	Once in any 90 days at any sampling site

2. If the concentrations and frequencies in subsection D (1) of this Regulation XIV are exceeded, the person responsible for each source which causes or contributes to such concentrations and frequencies and which emits more than one thousand (1,000)

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[a] parts per million by volume

pounds per hour of sulfur dioxide shall file an emission reduction plan with the Executive Secretary for approval. Such a plan shall include a description of proposed process modifications, change in fuel use, control equipment to be installed, or any other methods which aid in the reduction of the concentrations and frequencies in the ambient air specified in subsection D (1). The approval and implementation of such a plan shall constitute compliance with this Regulation XIV.

3. No person shall cause or permit the emission of sulfuric acid or sulfur trioxide or any combination thereof from any premises in such manner and amounts that the concentrations and frequencies attributable to such emission exceed those shown in the following table in the ambient air at any place where people live, work or congregate beyond the premises on which the source is located.

Concentration of sulfuric acid or trioxide or any combination thereof*	Averaging time	Maximum Allowable Frequency
0.03 mg/m^3 or more	30 minutes or more	Once in any 48 hours
0.01 mg/m^3 or more	24 hours	Once in any 90 days

*Milligrams per cubic meter at standard conditions, measured and calculated as sulfuric acid.

4. No person shall cause or permit the emission of hydrogen sulfide from any premises in such manner and amounts that the concentrations attributable to such emissions in the ambient air at any occupied place beyond the premises on which the source is located exceed a concentration of 0.03 parts per million by volume for any averaging period of 30 or more minutes on more than two occasions in any 5 consecutive day period, or 0.05 parts per million by volume for any averaging period 30 or more minutes more than two times per year.

E. More Restrictive Limitation to Apply

In any situation the limitations imposed by the provisions of both Sections C and D of this Regulation XIV shall be assessed, and the more restrictive section shall apply.

F. Time Schedule for Compliance

For the purpose of this Regulation XIV, the effective date shall be 1-18-72, and the provisions of Regulation XIII shall apply accordingly.

10 CSR 10-4.160 RULES FOR CONTROLLING EMISSIONS DURING PERIODS OF HIGH AIR POLLUTION POTENTIAL

A. General Provisions

1. This regulation shall apply to all emissions from any source or any premises.

2. It may apply to all or part of the affected area depending upon which pollutant fulfills the requirements of subsection B (2) below, and whether or not air sampling reveals only a localized problem.

B. Air Pollution Alerts and Emergencies

1. Alert and emergency level values are stated as:

   a. the product of the hourly sulfur dioxide concentration in parts per million, and the hourly particulate concentration in COH per 1,000 linear feet, or

   b. the concentrations of SO_2, CO, photochemical oxidants, particulates in COHs, or NO_2.

   The basis of reference for the State of Missouri data shall be: Sulfur dioxide as measured by the continuous modified West-Gaeke method or any other method standardized against such; particulates as measured by the automatic paper-tape sampler method, "ASTM Standard Method of Test for Particulate Matter in the Atmosphere, Optical Density of Filtered Deposit, D-1704-61"; carbon monoxide as measured by the infrared spectophotometer method, MSA Bulletin No. 0705-10, Instrument Division, Pittsburgh, Pennsylvania; photochemical oxidants as measured by "Analytical Methods of the 'Intersociety Committee on Methods for Ambient Air Sampling and Analyses', Health Laboratory Science, 1970".

2. Alert Values:

   a. Yellow Alert value - Any one of the following shall initiate the Yellow Alert:

    1. Product reaching 0.2 at any sampling station (24 hour average).
    2. Sulfur dioxide concentration reaching 0.30 ppm at any sampling station (24 hour average).
    3. Photochemical oxidant concentration reaching 0.10 ppm at any sampling station (1 hour average).
    4. Carbon monoxide concentration reaching 15 ppm at any sampling station (8 hour average).
    5. Particulate concentration reaching 3 COHs (375 ug/m^3) at any sampling station (24 hour average).
    6. NO_2 concentration reaching 0.6 ppm at any sampling station (1 hour average) 0.15 ppm (24 hour average).

b. Red Alert value - Any one of the following shall initiate the Red Alert:

    1. Product reaching 0.8 at any sampling station (24 hour average).
    2. Sulfur dioxide concentration reaching 0.6 ppm at any sampling station (24 hour average).
    3. Photochemical oxidant concentration reaching 0.4 ppm at any sampling station (1 hour average).
    4. Carbon monoxide concentration reaching 30 ppm at any sampling station (8 hour average).
    5. Particulate concentration reaching 5 COHs (625 ug/m^3) at any sampling station (24 hour average).
    6. NO_2 concentration reaching 1.2 ppm at any sampling station (1 hour average) 0.3 ppm (24 hour average).

c. Emergency Alert value - Any one of the following shall initiate an Emergency Alert:

    1. Product reaching 1.2 at any sampling station (24 hour average).
    2. Sulfur dioxide concentration reaching 0.8 ppm at any sampling station (24 hour average).
    3. Photochemical oxidant concentration reaching 0.6 ppm at any sampling station (1 hour average).

4. Carbon monoxide concentration reaching 40 ppm at any sampling station (8 hour average).

5. Particulate concentration reaching 7 COHs (875 ug/m^3) at any sampling station (24 hour average).

6. NO_2 concentration reaching 1.6 ppm at any sampling station (1 hour average) 0.4 ppm (24 hour average).

C. Air Pollution Watch

1. Air Pollution Watch procedures shall be initiated by the Executive Secretary upon receipt of a 36 hour high air stagnation advisory from the appropriate federal weather forecasting official for an area including all or part of the affected area.

2. The following Watch procedures shall apply:

   a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Watch conditions exist.

   b. Notify all affected governmental control agencies that Watch conditions exist, and that coordination of action is required.

   c. Increase the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 2 hours, with continual hourly review, at a central control location.

   d. Inform the general public through the news media that a high air pollution potential exists, the area or areas where high initial readings have been obtained from sampling, and encourage persons suffering from respiratory ailments or heart conditions to take whatever precautions are most appropriate.

   e. Backyard incineration, including the open burning of leaves, tree trimmings, garbage, and other refuse shall be prohibited throughout the entire affected area.

   f. All variances or permits allowing open burning shall be temporarily rendered invalid for the duration of the high air pollution potential.

   g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary shall be notified that Watch conditions exist. All such industries shall be requested to voluntarily begin actions to reduce emissions of air contaminants from their operations, consistent with the provisions of their Yellow Alert plans. See Table I.

h. The Executive Secretary may request through the news media that the use of automobiles be restricted to necessary driving only.

D. Yellow Alert

1. Yellow Alert procedures shall be initiated by the Executive Secretary if the following conditions are met:

    a. An air stagnation advisory and the Yellow Alert values are equalled or exceeded at any one sampling station within the advisory area, unless there is a current forecast of meteorological improvement within the next 24 hours.

    b. Meteorological conditions are such that the pollutant concentrations can be expected to remain at the above levels for 12 or more hours or increase unless control actions are taken.

2. The following Yellow Alert procedures shall apply:

    a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Yellow Alert conditions exist.

    b. Notify all affected governmental control agencies that Yellow Alert conditions exist, and that coordination of action is required.

    c. Notify all hospitals within the affected area that Yellow Alert conditions exist.

    d. Increase the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1 hour, with continual hourly review at a central control location.

    e. Inform the general public through the news media that a Yellow Alert exists, the geographical area or areas where the alert is applicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respiratory ailments or heart conditions to take the most appropriate and expedient precautions.

f. The Executive Secretary shall request very emphatically through the news media that all unnecessary use of automobiles be restricted, and that all entertainment functions and facilities be closed.

g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Yellow Alert conditions shall initiate such plans upon notification by the Executive Secretary. See Table I.

h. No open burning will be allowed anywhere within the affected area.

E. Red Alert

1. Red Alert procedures shall be initiated by the Executive Secretary if the following requirements are met:

   a. A 36 or 24-hour high air stagnation advisory is in effect for all or part of the affected area.

   b. The Red Alert values equalled or exceeded at any one monitoring station within the area.

   The Red Alert can also be initiated if:

   a. The Red Alert value is equalled or exceeded as the arithmetic mean for 12 consecutive hours, and [a] an [(HAPPA)] air stagnation advisory.

   b. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 24 consecutive hours and a forecast of stagnation for the following 12 hours is received.

2. The following Red Alert procedures shall apply:

   a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Red Alert conditions exist.

   b. Notify all affected governmental control agencies that Red Alert conditions exist and that coordination of action is required.

   c. Notify all hospitals within the affected area that Red Alert conditions exist.

d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1 hour with continual hourly review at a central control location.

e. Inform the general public through the news media that a Red Alert exists, the geographical area or areas where the alert is applicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respiratory ailments or heart conditions to take the most appropriate and expedient precautions.

f. Airlines operating within the Red Alert area shall be notified that such conditions exist, and that a reduction of flights out of the airport may be required.

g. Non-local vehicular traffic may be diverted around the Red Alert area depending upon which pollutant or pollutants caused the alert.

h. Local vehicular traffic shall through the news media be told to avoid certain areas, and emphatically told to restrict non-essential trips.

i. All incineration and open burning shall cease, regardless of location.

j. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Red Alert conditions shall initiate such plans upon notification by the Executive Secretary. See Table II.

F. Air Pollution Emergency

1. Emergency procedures shall be initiated by the Executive Secretary, if the following requirements are met:

   a. A 36 or 24-hour high air stagnation advisory is in effect for all or part of the affected area.

   b. The air pollution emergency values are equalled or exceeded as the arithmetic mean of 4 consecutive hours at any one monitoring station.

   The Air Pollution Emergency procedures can also be initiated if:

   a. The air pollution emergency value is equalled or exceeded as the arithmetic mean of 12 consecutive hours and a forecast of stagnation for the following 12 hours is received, or

    b. The Red Alert is equalled or exceeded as the arithmetic mean for 24 hours and a forecast of stagnation for the following 12 hours is received, or

    c. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 36 hours and a forecast of stagnation for the following 12 hours is received.

2. The following Emergency Procedures shall apply:

    a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that an emergency exists.

    b. Notify all affected governmental control agencies that an emergency exists, and that coordination of action is required.

    c. Notify all hospitals within the affected area that an emergency exists, and to be so prepared.

    d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding ½ hour with continual half-hour review at a central control location.

    e. Open burning and incineration shall cease throughout the area.

    f. Facilities which are sources of air contaminant emissions and are required to have filed approved plans with the Executive Secretary shall initiate such plans upon notification by the Executive Secretary or his representative that Air Pollution Emergency conditions exist. See Table III.

    g. The use of motor vehicles is prohibited except in emergencies with the approval of local or state police.

    h. All manufacturing facilities except those listed in F 2. f. shall institute such action as will result in maximum reduction of air contaminants from their operations by ceasing, curtailing, or postponing operations to the extent possible without causing injury to persons or damage to equipment.

    i. All airplane flights originating within the area of the Air Pollution Emergency shall be cancelled.

j. All places of employment described below shall immediately cease operation during the Air Pollution Emergency:

Mining and Quarrying
Contract Construction Work
Wholesale Trade Establishments
Schools and Libraries

Governmental Agencies except those needed to administer Air Pollution Alert Program and other essential Agencies determined by the Executive Secretary to be vital for public safety and welfare and needed to administer the provisions of these regulations.

Retail trade stores except those dealing primarily in sale of food or pharmacies.

Banks, real estate agencies, insurance offices and similar businesses.

Laundries, cleaners and dryers, beauty and barber shops and photographic studios.

Amusement and recreational service establishments such as motion picture theaters.

Automobile repair and automobile service garages.

Advertising offices, consumer credit reporting, adjustment and collection agencies, printing and duplicating services, rental agencies and commercial testing laboratories.

G. It should be made clear that an air pollution watch, yellow alert, red alert and emergency can be declared on the basis of deteriorating air quality alone; an air stagnation advisory need not be in effect. The appropriate episode status should be declared by the Executive Secretary when any monitoring site records ambient air quality below that designated in the criteria.

The levels used to designate an air pollution emergency are those that pose an imminent and substantial endangerment to public health. Because these levels should not be permitted to occur, an air stagnation advisory should be declared when it appears that these levels may be reached.

H. Termination of Alerts

When in the judgement of the Executive Secretary meteorological conditions and pollutant concentrations are such to warrant discontinuance of any alert condition, he shall notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that the alert has been discontinued, and issue a public notice to that effect.

TABLE I

YELLOW ALERT PLAN OBJECTIVES

Air Contaminant Source		Requirements for Plan
1. Electric Power Generating Facilities	1a.	Reduction of emission by utilization of fuels having low ash and sulfur content.
	b.	Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (12:00 PM.M to 4:00 P.M.)
	c.	Reduction of emissions by diverting electric power generation to facilities outside of area for which the alert is called.
2. Process Steam Generating Facilities	2a.	Reduction of emissions by utilization of fuels having low ash and sulfur content.
	b.	Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.)
	c.	Reduction of steam load demands consistent with continuing the operation of the plant.
3. Manufacturing industries of the following (SIC) group designations Paper and Allied Products Industries-Group 26 Chemicals and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29	3a.	Reduction of air contaminant emissions by curtailing, postponing, or deferring production and allied operations.
	b.	Stop all trade waste disposal production which emit particles, gases, vapors or malodorous substances including incineration.
	c.	Reduction of heat load demands for processing to a minimum.

Stone, Glass, Clay and Concrete Product Industries-Group 32 Primary Metals Industries -Group 33 Grain Industries -Group 20	
4. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	4a. Reduction of air contaminant emissions by curtailing or deferring production and allied operations.
	b. Stop all trade waste disposal practices which emit particles, gases, vapors or malodorous substances including incineration.
	c. Reduction of heat load demands for processing to a minimum.
5. Private, public and commercial refuse disposal operations.	5a. Stop all open burning including disposal of diseased trees and burning at fire fighting schools, except as required for disposal of hazardous materials or other emergency needs.
	b. Operation of incinerators shall be limited to the hours between 10:00 A.M. and 2:00 P.M.
6. Transportation	6a. The unnecessary operation of any motor vehicle should be restricted.

TABLE II

RED ALERT PLAN OBJECTIVES

All Yellow ert plans shall be continued. In addition, the following steps shall be taken:

Air Contaminant Source	Requirements for Plan
1. Process steam generating facilities	1a. Maximum reduction of air contaminant emissions by utilization of fuels having

	the lowest ash and sulfur content.
	b. Maximum utilization of periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.) for soot blowing and boiler lancing.
	c. Prepare to implement the "emergency" plan submitted to the Executive Secretary.
2. Manufacturing industries of the following SIC Group designations Paper and Allied Products Industries-Group 26 Chemical and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29 Stone, Glass, Clay and Concrete Product Industries-Group 32 Primary Metals Industries -Group 33 Grain Industries-Group 20	2a. Maximum reduction of air contaminant emission by, if necessary, postponing production and allied operations b. Maximum reduction of heat load demands for processing. c. Prepare to implement the "emergency" plan submitted to the Executive Secretary.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	3a. Maximum reduction of air contaminant emissions by, if necessary, postponing production and allied operations.
4. Private, public and commercial refuse disposal operations.	4a. Stop operation of all incinerators.
5. Transportation	5a. Car pools and public transportation must be used in place of unnecessary motor vehicle operation.

TABLE III

AIR POLLUTION EMERGENCY PLAN OBJECTIVES

Air Contaminant Source	Requirements for Plan

All Yellow and Red Alert plans shall be continued. In addition, the following steps shall be taken:

1. Process steam generating facilities	1a. Maximum reduction of air contaminant emissions by reducing heat and steam load demands to values consistent with preventing equipment damage.
	b. Maximum utilization periods of high atmospheric turbulence (12:00 P.M. to 4:00 P.M.) for soot blowing and boiler lancing.
2. Manufacturing industries of the following SIC Group designations Paper and Allied Products Industries-Group 26 Chemicals and Allied Products Industries-Group 28 Petroleum Refining and Related Industries-Group 29 Stone, Glass, and Clay and Concrete Product Industries-Group 32 Primary Metal Industries-Group 33 Grain Industries-Group 23	2a. Elimination of air contaminant emission from the manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	3a. Elimination of air contaminant emissions from the manufacturing operations by ceasing, curtailing postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
	b. Maximum reduction of heat load demands for processing.
4. Private, public and commercial operations.	4a. The following places of employment, if notified by the Executive Secretary, shall immediately cease operations:

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	1. Mining and quarrying operations.
gent ✓	2. Construction projects except as required to avoid emergent physical harm.
	3. Manufacturing establishments except those required to have in force an air pollution alert plan.
	4. Wholesale trade establishments.
	5. Governmental units, except as required to implement the provisions of these regulations and other operations essential to immediate protection of the public welfare and safety.
	6. Retail trade and service establishments except pharmacies, food stores and other similar operations providing for emergency needs.
	7. Other commercial service operations such as those engaged in banking, insurance real estate, advertising, etc.
	8. Educational institutions.
	9. Amusement and recreational facilities.
5. Transportation	5a. Motor vehicles shall only be used for private and public emergency needs.

10 CSR 10-4.180 (Springfield-Greene County Area) "New Source Performance Standards".

A. The provisions of 40 CFR, Part 60 as of the effective date of this regulation, shall apply and are adopted by reference as part of this regulation.

B. In any situation, the emission limitations imposed by this regulation and all existing regulations for the Springfield-Greene County Area shall be assessed and the more restrictive limitation shall apply.

10 CSR 10-4.190 RESTRICTION OF EMISSION OF SULFUR COMPOUNDS FROM INDIRECT HEATING SOURCES

(1) Emission of Sulfur Dioxide from Indirect Heating Sources Restricted

(A) This section (1) applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or hot air or other indirect heating of liquids, gases, or solids and, in the course of doing so, the products of combustion do not come into direct contact with process materials. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

(B) The provisions of this section (1) are applicable to all indirect heating sources greater than three hundred fifty thousand (350,000) BTU per hour actual heat input.

(C) No person shall cause or allow emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight (8) pounds of sulfur dioxide per million BTU actual heat input averaged on any three-hour basis unless that source is listed in subsection (1)(D) or is subject to 10 CSR 10-4.180.

(D) The following existing indirect heating sources shall limit their average sulfur dioxide emissions into the atmosphere to the allowable amount of sulfur dioxide per million BTU of actual heat input listed below (based on any consecutive three-hour time period:

Facility	Emission Rate (Pounds Sulfur Dioxide Per Million BTU)
City Utilities - James River Plant	9.2
City Utilities - Southwest Plant	1.2

(E) Compliance with subsections (1)(C) shall be determined by source testing. The heat value of the fuel shall be determined as specified in 10 CSR 10-6.040, section (2). Source testing to determine compliance shall be done as specified in 10 CSR 10-6.030, section (6). The actual heat input shall be determined by multiplying the heating value of fuel by the amount of fuel burned during the source test period.

(F) Other test methods approved by the department director may be used.

CHAPTER 5 - AIR POLLUTION REGULATIONS FOR THE ST. LOUIS METROPOLITAN AREA

10 CSR 10-5.030 MAXIMUM ALLOWABLE EMISSION OF PARTICULATE MATTER FROM FUEL BURNING EQUIPMENT USED FOR INDIRECT HEATING

A. General Provisions

1. This regulation applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or hot air or other indirect heating of liquids, gases, or solids and, in the course of doing so, the products of combustion do not come into direct contact with process materials. Fuels include those such as coal, coke, lignite, coke breeze, fuel oil, and wood, but do not include refuse. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

2. The heat content of coal shall be determined according to ASTM method D-271-64 Laboratory Sampling and Analysis of Coal and Coke or ASTM method D-2015-62T Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, which publications are made a part of this regulation by reference.

3. For purposes of this regulation the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or stacks. The heat input value used, shall be the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater. The total heat input of all fuel burning units at a plant or on a premise shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

4. The amount of particulate matter emitted shall be measured according to the American Society of Mechanical Engineers Power Test Codes - PTC - 27 dated 1957 and entitled Determining Dust Concentration in a Gas Stream, which publication is made a part of this regulation by reference. Any other method approved by the Executive Secretary may be used in accordance with good professional practice.

B. Provision Regardless of Stack Height

1. No person shall cause or permit the emission of particulate matter as measured in the flue which exceeds the following weights, as observable from Graph I:

   a. 0.60 pounds for each million B.T.U. per hour input if the equipment has a capacity rating of 10 million or less. If the capacity rating of the fuel burning equipment is more than 10 million, the amount of particulate matter which may be emitted for each million B.T.U. input shall decrease as the capacity rating of the fuel burning equipment increases as follows:

1. no more than 0.46 pounds for each million B.T.U. input from equipment having a capacity rating of 50 million;

2. no more than 0.40 pounds for each million B.T.U. input from equipment having a capacity rating of 100 million;

3. no more than 0.30 pounds for each million B.T.U. input from equipment having a capacity rating of 500 million;

4. no more than 0.26 pounds for each million B.T.U. input from equipment having a capacity rating of 1,000 million;

5. no more than 0.23 pounds for each million B.T.U. input from equipment having a capacity rating of 2,500 million;

6. no more than 0.20 pounds for each million B.T.U. input from equipment having a capacity rating of 5,000 million;

7. no more than 0.19 pounds for each million B.T.U. input from equipment having a capacity rating of 7,500 million;

8. no more than 0.18 pounds for each million B.T.U. input from equipment having a capacity rating of 10,000 million or more.

The amount of particulate matter which may be emitted from fuel burning equipment having an intermediate capacity rating shall be determined by linear interpolation. If two or more fuel burning units are connected to a single flue, the total capacity rating of all fuel burning units connected to the flue shall be the capacity rating for the purpose of computing the amount of particulate matter which may be emitted. If a single fuel burning unit is manifolded to two or more flues, the capacity rating of the single fuel burning unit shall be the capacity rating for the purpose of computing the amount of particulate matter which may be emitted.

C. Provision Considering Stack Height

1. For purposes of this regulation, stack height shall be as follows:

    a. Stack height, for purposes of Regulation II, is defined as the upward vertical distance from an elevation 600 feet above mean sea level to the location at which gases passing through the stack enter the atmosphere.

b. The provisions of subsection C.1(a) apply in cases wherein there is only one stack serving a plant or premise and to cases in which there is more than one stack, all of equal height. In cases involving more than one stack all of equal height, the stack height shall be the height of one of such stacks.

c. When a plant or premise has more than one stack and the stack heights are unequal, a weighted average stack height shall be used for purposes of determining maximum allowable emissions. This weighted average stack height shall be calculated in the following manner:

  1. Determine the heat input of each fuel burning unit (expressed in B.T.U. per hour). Add together the heat inputs of the units venting to each stack. If a single unit vents to more than one stack, prorate the B.T.U. input to each stack in proportion to exhaust gas flows.

  2. Determine the height of each stack, measured in feet.

  3. Multiply the total heat input of units vented through each stack as determined in (1) by the height of the stack to which discharged.

  4. Add together the values obtained from (3).

  5. Add together the heat input for all of the units of the plant or premise.

  6. Divide the sum obtained in step (4) by the sum obtained in step (5). The quotient (result) is the weighted average stack height expressed in feet.

2. Emission Limitations

  a. No person shall cause or permit the emission of particulate matter from fuel burning equipment used for indirect heating from any single stack or chimney in a quantity greater than 0.6 pounds per million B.T.U. of heat input to the equipment discharging to such stack or chimney.

  b. No person shall cause or permit the emission of particulate matter from any fuel burning installation used for indirect heating from any stack or chimney in excess of the quantity determined from the Graph II embodied in this regulation, as used in accordance with the following instructions:

    1. Determine the total heat input of the installation using provisions of subsection A-2 and A-3 of this regulation.

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2. Determine the stack height for the installation using provisions of subsection C-1 of this regulation.

3. Locate a point representing the heat input of the installation on the scale of the graph marked "Total Capacity of Installation".

4. From the point located in step (3) draw a line across the graph perpendicular to the scale marked "Total Capacity of Installation".

5. Locate a sloping line on the graph which represents the stack height for the installation, as determined in step (2), interpolating between lines, if necessary. If stack height is less than 50 feet, use the line designated as 50 feet.

6. Locate the point where the line drawn in step (4) intersects the sloping stack height line selected in step (5).

7. Draw a line from the point located in step (6) perpendicular to the scale on the graph marked "Maximum Allowable Emission of Particulate Matter". The point where the line drawn intersects this scale is the value for the maximum allowable emission of particulate matter expressed in pounds of particulate matter per million B.T.U. of heat input.

8. If desired, the total maximum allowable emission of particulate matter expressed in pounds per hour may be obtained by multiplying the allowable emission value obtained in step (7) by the total heat input obtained in step (1).

9. The maximum allowable particulate matter emission rates determined in the manner prescribed in subsections C.2-b(1) through C.2-b(8) shall apply when all of the gases from indirect heating units at a plant or on a premise are discharged to the atmosphere from more than one stack, the maximum allowable particulate matter emission rate determined as prescribed in the said subsections shall be reduced by dividing the value obtained by using preceding provisions of this subsection C.2-a by a factor taken from the following list for the number of stacks involved:

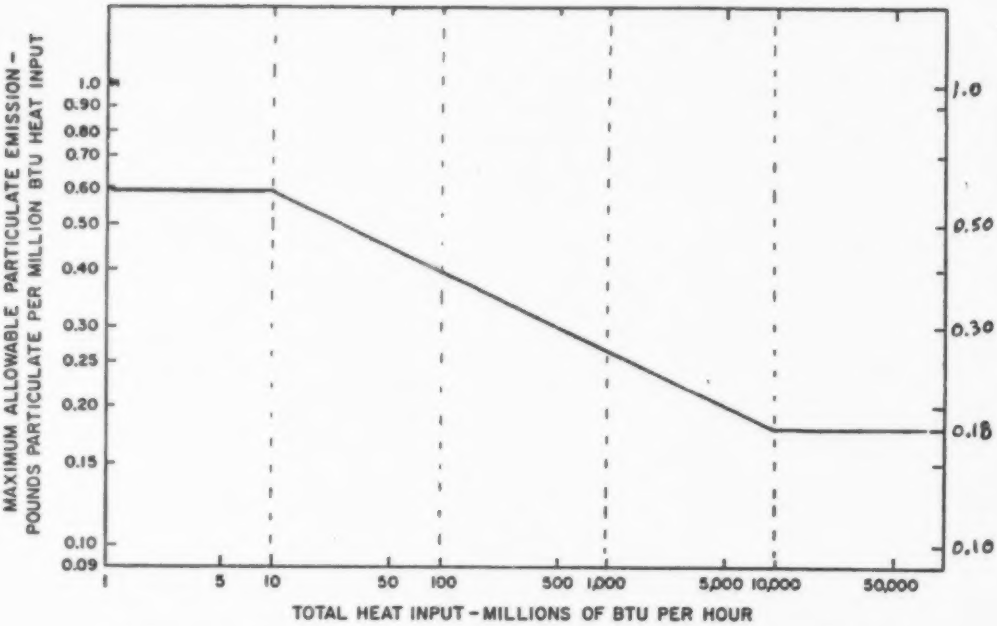
Number of stacks	Factor to be used to divide into the value obtained from use of subsections C.2-b(1) through C.2-b(8)
1	1.0
2	1.19
3	1.32
4	1.41
5	1.50
6 or more	1.56

c. Each installation having a total heat input rate of 5 million B.T.U. or more per hour shall be equipped with particulate matter emission control equipment which will remove at least 85 percent of the particulate matter in the gases arising from the installation and to be discharged to the atmosphere.

d. No person shall cause or permit the emission of any particles larger than 60 microns in diameter from any stack subject to provisions of this regulation.

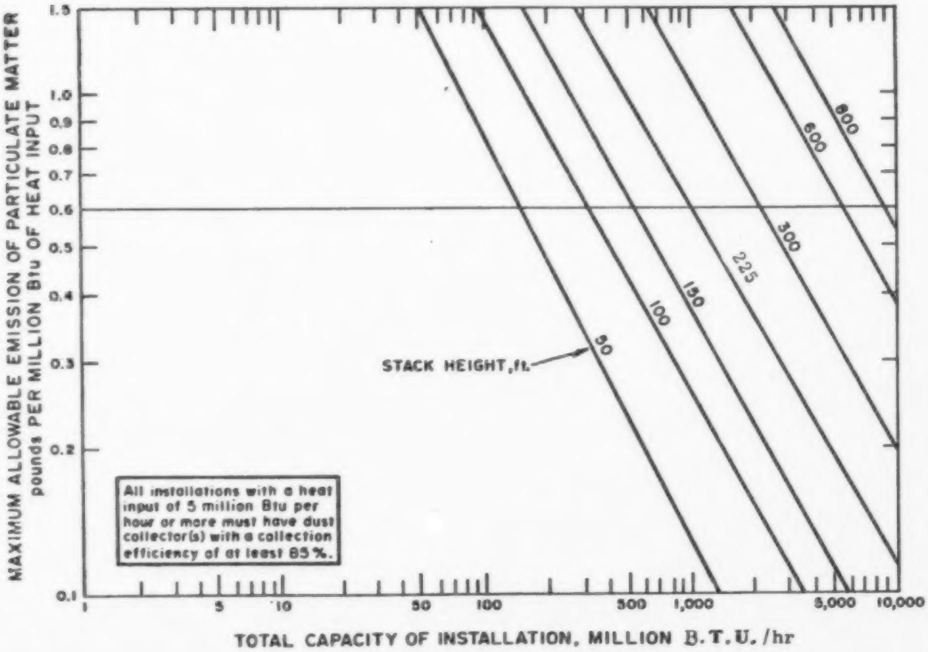
D. Procedure When More Than One Provision of This Regulation Applies

When two or more provisions of this regulation specify a maximum allowable particulate emission applicable in a particular case, the one resulting in the lowest total weight of emission of particulate matter to the atmosphere shall apply and the other shall not apply, except that subsections C.2(c) and C.2(d) shall apply in all cases.



Limitations on emission of particulate matter from fuel burning installations.

Graph I



All installations with a heat input of 5 million Btu per hour or more must have dust collector(s) with a collection efficiency of at least 85%.

Graph II

10 CSR 10-5.040 USE OF FUEL IN HAND-FIRED EQUIPMENT PROHIBITED

A. General

1. This regulation shall apply to all fuelburning equipment including, but not limited to, furnaces, heating and cooking stoves and hot water furnaces. It shall not apply to wood-burning fireplaces and wood-burning stoves in dwellings, nor to fires used for recreational purposes, nor to fires used solely for the preparation of food by barbecuing.

2. Hand-fired fuel-burning equipment is any stove, furnace, or other fuel-burning device in which fuel is manually introduced directly into the combustion chamber.

B. Prohibition

1. After three years from the effective date of this regulation, it shall, be unlawful to operate any hand-fired fuel burning equipment in the St. Louis, Missouri metropolitan area.

2. The Executive Secretary may order that any hand-fired fuel burning equipment not be used at any time earlier than three years from the adoption of this regulation whenever such equipment has been found in violation of any air contaminant emission regulation on three or more occasions in any six months period.

10 CSR 10-5.050 RESTRICTION OF EMISSION OF PARTICULATE MATTER FROM INDUSTRIAL PROCESSES

(1) General Provisions

(A) This regulation applies to any operation, process, or activity except the burning of fuel for indirect heating in which the products of combustion do not come into direct contact with process materials and except the burning of refuse and except the processing of salvageable material by burning.

(B) Process weight means the total weight of all materials introduced into a source operation, including solid fuels, but excluding liquids and gases used solely as fuels, and excluding air introduced for purposes of combustion.

(C) Process weight rate means a rate established as follows:

1. For continuous or long-run steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.

2. For cyclical or batch source operations, the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such period.

3. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this section, that interpretation which results in the minimum value for allowable emission shall apply.

(D) Emission tests relating to this regulation shall be made following the standards in American Society of Mechanical Engineers Power Test Codes-PTC - 27 dated 1957 and entitled Determining Dust Concentration in a Gas Stream.

(2) Emission Limitations

(A) Except as provided for in Section 2 (B), no person shall cause, suffer, allow, or permit the emission of particulate matter in any one hour from any source in excess of the amount shown in Table I for the process weight allocated to such source.

(B) The limitations established by Section (2)A shall not require the reduction of particulate matter concentration, based on the source gas volume, below the concentration specified in Table 2 for such volume; provided that, for the purposes of this section the person responsible for the emission may elect to substitute a volume determined according to the provisions of Section 2 (C); and provided further that the burden of showing the source gas volume or other volume substituted therefor, including all the factors which determine such volume and the methods of determining and computing such volume, shall be on the person seeking to come within the provisions of this Section.

(C) Any volume of gases passing through and leaving an air pollution abatement operation may be substituted for the source gas volume of the source operation served by such air pollution abatement operation, for the purposes of Section (2)(B), provided such air pollution abatement operation emits no more than 40 percent of the weight of particulate matter entering thereto; and provided further that such substituted volume shall be corrected to standard conditions and to a moisture content no greater than that of any gas stream entering such air pollution abatement operation.

(D) No person shall cause, suffer, allow, or permit the emission of particulate matter from any source in a concentration in excess of 0.30 grain per standard cubic foot of exhaust gases. If provisions of this subsection would permit a greater emission of particulate matter per hour than allowed by subsection 2(A), the provision of this subsection 2(D) shall not apply except that the following regulation shall apply to existing grey iron jobbing cupolas. For purposes of this regulation, a jobbing cupola is defined as a cupola which has a single melting cycle no more than 10 hours in any consecutive 24 hours and no more than 50 hours in any consecutive 7 days.

1. All existing grey iron jobbing cupolas shall be equipped with gas cleaning devices and so operated as to remove 85% by weight of all the particulate matter in the cupola discharge gases, or release not more than 0.4 grain of particulate matter per standard cubic foot of discharge gas, whichever is more stringent.

2. All gases, vapors, and gas entrained effluents from such cupolas shall be incinerated at a temperature not less than 1200° Fahrenheit for a period of not less than 0.3 second.

(3) Exceptions. The following exceptions to the provisions of this regulation shall be permitted:

(A) For the grinding, crushing, and classifying operations at a rock quarry, and

(B) For the receiving and shipping of whole grain from or into a railroad or truck transportation source at a grain elevator.

TABLE I

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58	50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000.	77.6
10,000	5.00	12.0	6,000,000	3,000.	92.7
12,000	6.00	13.6			

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation $E-4.10\,P^{0.67}$, and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation: $E - 55.0P^{0.11} - 40$, where E = rate of emission in lb/hr and P = process weight rate in tons/hr.

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TABLE 2

Source Gas Volume, SCFM[a]	Concentration GR/SCF[b]	Source Gas Volume, SCFM[a]	Concentration GR/SCF[b]
7,000 or less	0.100	140,000	0.038
8,000	0.096	160,000	0.036
9,000	0.092	180,000	0.035
10,000	0.089	200,000	0.034
20,000	0.071	300,000	0.030
30,000	0.062	400,000	0.027
40,000	0.057	500,000	0.025
50,000	0.053	600,000	0.024
60,000	0.050	800,000	0.021
80,000	0.045	1,000,000 or more	0.020
100,000	0.042		
120,000	0.040		

[a] Standard cubic foot per minute

[b] Grain per standard cubic foot

10 CSR 10-5.060 REFUSE NOT TO BE BURNED IN FUEL BURNING INSTALLATIONS

No person shall burn or cause or permit the burning of refuse in any installation which is designed for the primary purpose of burning fuel.

10 CSR 10-5.070 OPEN BURNING RESTRICTIONS

A. Refuse Burning Restrictions

1. No person shall dispose of refuse by open burning, or cause, suffer, allow or permit open burning of refuse.
2. In areas where no public or commercial refuse collection service is available on the effective date of this regulation, the open burning of refuse on residential premises, of refuse originating in dwelling units on the same premises, shall not be in violation of this regulation until such refuse collection service becomes available or until 3 years from the effective date of this regulation, whichever is sooner.

3. Regardless of provisions of subsections A(1) and A(2) of this regulation, open burning on residential premises of refuse originating in dwelling units on the same premises shall not be a violation of this regulation in areas of low population density. The Executive Secretary, after consultation with public agencies concerned with refuse collection and disposal, shall select and publish the specific boundaries of areas in which such open burning of refuse will not be in violation of this regulation. In selecting such areas, he shall use a density of 100 dwelling units or less per square mile as an approximate definition of areas of low population density and he shall give due consideration to the desirability of having restrictive air pollution control regulations within the conterminous area comprising the St. Louis metropolitan area air pollution basin. The Executive Secretary shall select and publish revised boundaries, as described above, from time to time as population density changes.

4. Any open burning of refuse permitted by subsection A(2) or A(3) of this regulation shall be permitted only between the hours of 10:00 A.M. and 4:00 P.M.

B. Prohibition of Salvage Operations by Open Burning

No person shall conduct or cause or permit the conduct of a salvage operation by open burning.

C. Restrictions on Open Burning of Trade Wastes

1. No person shall cause or permit the disposal of trade wastes by open burning, except as provided in subsection C(2) of this regulation.

2. The open burning of trade wastes may be permitted when it can be shown by a person that such open burning is absolutely necessary and in the public interest. Any person intending to engage in open burning of trade wastes shall file a request to do so with the Executive Secretary.

   The application shall state the following:

   a. The name, address, and telephone number of the person submitting the application.

   b. The type of business or activity involved.

   c. A description of the proposed equipment and operating practices, the type, quantity, and composition of trade wastes to be burned, and the expected composition and amount of air contaminants to be released to the atmosphere.

d. The schedule of burning operations.

e. The exact location where open burning will be used to dispose of trade waste.

f. Reasons why no method other than open burning can be used for disposal of trade waste.

g. Evidence that the proposed open burning has been approved by any fire department which may have jurisdiction. Upon approval of the application by the Executive Secretary, the person may proceed with the operation without being in violation of subsection C(1).

D. Restrictions on Open Burning of Agricultural Wastes

1. The burning of plant life is prohibited. Provided that the opening burning of plant life grown on the premises in the course of any agricultural operation may be permitted when it can be shown that such open burning is necessary and that no fire hazard will occur, any person intending to dispose of plant life by open burning shall file a request to do so with the Executive Secretary on forms provided by him. Such form shall require the provision of such information as the Executive Secretary shall reasonably need to determine the air pollution aspects of the situation and whether the request should be granted. The applicant shall furnish the Executive Secretary evidence that the proposed open burning has been approved by any fire department which may have jurisdiction. Upon approval of the application by the Executive Secretary, the person may proceed with the operation without being in violation of this subsection.

2. Any open burning permitted under provisions of subsection D(1) of this regulation shall be permitted only between the hours of 10:00 A.M. and 4:00 P.M. and only at times when the actual or forecast surface wind speed, as given by the local U.S. Weather Bureau is 5 miles per hour or greater.

E. Restriction on Open Burning of Tree Leaves

1. The open burning of leaves is prohibited except between the hours of 10:00 A.M. and 4:00 P.M.

2. All open burning of leaves shall be prohibited after September 30, 1968 except in areas of low population density. Such areas of low population density shall be specified by the Executive Secretary in the same manner as described in subsection A(3) of this regulation.

10 CSR 10-5.080 INCINERATORS

1. This regulation shall apply to any incinerator used to dispose of refuse or other wastes by burning and the processing of salvageable material by burning. Notwithstanding definitions in other regulations, as used in this regulation the word refuse includes garbage, rubbish, trade wastes, leaves, salvageable material, agricultural wastes, and other wastes. The word incinerator, as used in this regulation, includes incinerators and other devices, structures, or contrivances used to burn refuse (as defined herein) or to process refuse by burning.

2. The burning capacity of an incinerator shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the Executive Secretary in accordance with good engineering practice. In case of conflict, the findings of the Executive Secretary shall govern.

3. The amount of particulate matter emitted from any incinerator shall be determined according to the American Society of Mechanical Engineers Power Test Codes - PTC - 27 dated 1957 and entitled Determining Dust Concentration in a Gas Stream. This publication is hereby made a part of this regulation by reference. In calculating the amount of particulate matter in stack gas, the loading shall be adjusted to 12 percent carbon dioxide in the stack gas. The carbon dioxide produced by burning of any liquid or gaseous fuel in the incinerator shall be excluded from the calculation to 12 percent carbon dioxide. Emission shall be measured when the incinerator is operating at its maximum capacity or at any other burning rate during which emission of particulate matter is greater.

B. Restriction of Emissions of Particulate Matter from Incinerators

1. No person shall cause or permit the emission of particulate matter from the stack or chimney of any incinerator in excess of the following:

    a. Incinerators with a maximum refuse burning capacity of 200 or more pounds per hour, 0.2 grains of particulate matter per standard dry cubic foot of exhaust gas.

    b. All other incinerators, 0.3 grains of particulate matter per standard dry cubic foot of exhaust gas.

2. No incinerator shall be used for the burning of refuse unless such incinerator is a multiple chamber incinerator may be altered, modified or rebuilt as may be necessary to meet this requirement. The Executive Secretary may approve any other alteration

or modification to an existing incinerator if such be found by him to be equally effective for the purpose of air pollution control as a modification or alteration which would result in a multiple chamber incinerator. All new incinerators shall be multiple chamber incinerators, provided that the Executive Secretary may approve any other kind of incinerator if he finds in advance of construction or installation that such other kind of incinerator is equally effective for purposes of air pollution control as an approved multiple chamber incinerator.

Existing incinerators which are not multiple chamber incinerators and do not otherwise meet the requirements of Section B(1) of this regulation shall be modified or rebuilt in compliance with this section in accordance with the following schedule:

Rated Capacity	Latest Date for Compliance
2,000 lbs/hr. or above	12 months from effective date of regulation
1,000 - 1999 lbs/hr.	18 months from effective date of regulation
500 - 999 lbs/hr.	24 months from effective date of regulation
All Others	30 months from effective date of regulation.

C. Exceptions for Low Population Density Areas

The provisions of subsections B(1) and B(2) of this regulation shall not apply to any incinerator on residential premises used to burn refuse arising from domestic activities on the same premises in areas of low population density. The Executive Secretary shall select and publish the specific boundaries of areas in which subsections B(1) and B(2) of this regulation do not apply. In selecting such areas, he shall use a density of 100 dwelling units or less per square mile as an approximate definition of areas of low population density and he shall also give due consideration to the desirability of having restrictive air pollution control regulations within the conterminous area comprising the St. Louis metropolitan area air pollution basin. The Executive Secretary shall select and publish revised boundaries, in the manner described in the foregoing, from time to time as population density changes.

D. Permitted Hours of Operation

No person shall operate or cause or permit the operation of any incinerator at any time other than between the hours of 10:00 A.M. and 4:00 P.M. This restriction shall not apply to incinerators having a refuse burning capacity of five tons per hour or more.

10 CSR 10-5.090 RESTRICTIONS OF EMISSION OF VISIBLE AIR CONTAMINANTS

(1) Restrictions Applicable to All Installations*

(A) No person shall discharge into the atmosphere from any single source of emission whatsoever any air contaminant of a shade or density equal to or darker than that designated as No. 1 on the Ringelmann Chart, or 20 percent opacity.

(B) This section (1) shall not apply to existing sources, other than incinerators, which emit less than 25 pounds per hour of particulate.

(2) Restrictions Applicable to Existing Installations, other than Incinerators, which emit less than 25 pounds per hour of particulate.

(A) No person exempted from the provisions of section (1) above shall discharge into the atmosphere from any single source of emission whatsoever any air contaminant of a shade or density equal to or darker than that designated as No. 2 on the Ringelmann Chart or 40 percent opacity.

(B) This section (2) shall not apply to incinerators.

(3) Exceptions

(A) A person subject to section (1) above may discharge into the atmosphere from any single source of emission for a period or periods aggregating not more than six minutes in any sixty minutes air contaminants of a shade or density not darker than No. 2 on the Ringelmann Chart, or 40 percent opacity.

(B) Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of sections (1) or (2) of this regulation. such sections shall not apply.

(C) The provisions of section (1) and (2) of this regulation shall not apply to the following:

1. Transfer of molten metals.

2. Emissions from transfer ladles.

3. Coke ovens when pushing coke from oven.

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*Variance (compliance schedule) granted to: Union Electric Company's Labide Powerplant; River Cement Co.; Monsanto Co.'s Queeny Plant; Union Electric Co.'s Meramec Power Plant.

4. Water quenching of coke on discharge from ovens.

5. Existing grey iron jobbing cupolas as defined in 10 CSR 10-5.050.

(4) Method of Measurement

(A) The Ringelmann Chart published and described in the U.S. Bureau of Mines Information Circular 7718 or the U.S. Public Health Service Smoke Inspection Guide as described in the Federal Register, Title 42, Chapter 1, Subchapter F, Part 75, shall be used in grading the shade or opacity of visible air contaminant emissions. The director of the Department of Natural Resources may specify other means of measurement which give comparable results or results of greater accuracy. The two publications described in this subsection are hereby made a part of this regulation by reference.

(B) The installation of opacity monitoring devices shall be required on fluid bed catalytic cracking unit, catalyst regenerators, coal-fired steam generating units with greater than 250 million BTU/hour heat input, and portland cement calcining kiln operations.

(C) Minimum Specifications

1. Performance specifications. Continuous monitoring systems for monitoring opacity shall comply with performance specification 1 as set forth in 40 CFR part 60, Appendix B, "Performance Specification 1".

2. Cycling time. Cycling times include the total time a monitoring system requires to sample, analyze and record an emission measurement. Continuous monitoring systems for measuring opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive ten second period.

3. Monitor location. All continuous monitoring systems or monitoring devices shall be installed such that the measurement obtained are representative measurements of emissions occurring within the discharged opacity profile.

4. Combined effluents. When the effluent from two or more affected facilities of similar design and operating characteristics are combined before being released to the atmosphere, opacity monitoring systems may be installed on the combined effluent.

5. Zero and drift. The owners or operators of all continuous monitoring systems installed in accordance with the regulations of this rule shall record the zero and drift at least once daily unless the manufacturer has recommended adjustment at shorter intervals, at which case such recommendations shall be followed, and shall adjust the zero and span whenever the twenty-four hour zero drift or twenty-four hour calibration drift limits in

40 CFR Part 60, Appendix B, "Performance Specification 1" are exceeded or whenever the twenty-four hour zero drift or twenty-four hour calibration drift exceed 10% of the emission standard.

6. Span. Instrument span shall be approximately 200% of the expected instrument data display output corresponding to the emission standard for the source.

(D) Minimum Data Requirements

1. Written reports required. Owners or operators of facilities required to install continuous monitoring systems shall submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known, to the staff director. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

2. Data summary. The data summary shall consist of the magnitude in actual percent opacity of all six minute averages of opacity greater than the opacity emission limitation. Average of values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of 24 equally spaced instantaneous opacity measurements per six minute period. A one hour period means any 60-minute period commencing on the hour and a 6-minute period means any one of ten equal parts of a 1-hour period.

3. Inoperative periods. The date and time identifying each period during which the continuous monitoring system was inoperative (except for zero and span checks) and the nature of system repairs or adjustments shall be reported.

4. No excess emissions. When no excess emissions have occurred during the reporting period and the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be included in the report.

5. Files to be maintained. Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard. for a minimum of two years from the date of collection of such data or submission of such summaries.

(E) Special Considerations

1. Alternatives. Alternative monitoring requirements, system locations, and procedures for performing calibration checks which do not meet the requirements of this rule, but adequately

demonstrate a definite and consistent relationship with the intent of this rule, may be approved by the staff director.

2. Exceptions

    a. Coal fired steam generating units that have an annual boiler capacity factor of 30 percent or less as currently defined by the Federal Power Commission shall be exempt from these monitoring requirements.

    b. Coal fired boilers and portland cement calcining kilns scheduled for retirement prior to January 1, 1981, shall be exempt from these monitoring requirements subject to receipt and approval of an affidavit by the staff director.

    c. Coal fired boilers which utilize flue gas desulfurization equipment shall be exempt from these monitoring requirements.

    d. Portland cement calcining kilns whose particulate emissions are controlled with bag-houses which emit from multiple stacks or vents shall be exempt from these opacity monitoring requirements.

(F) Compliance

1. Owners or operators of affected facilities shall submit a plan for meeting the requirements of this rule to the staff director within 60 days of its effective date.

2. Notwithstanding compliance with any other provision of this rule, no owner or operator of a facility affected by this rule will be deemed to be in compliance until the compliance plan receives the written approval of the staff director.

3. Effective dates of compliance. Facilities affected by this rule shall comply within twelve months of its effective date.

(5) Compliance Schedule

(A) Existing Installations subject to section (1) other than incinerators, shall be in compliance with section (1) above by July 1, 1978. Those existing sources, except incinerators, which are subject to section (1) shall comply with the limitations of section (2) until July 1, 1978. All incinerators and new sources shall comply with section (1) on the effective date of this regulation.

10 CSR 10-5.100 PREVENTING PARTICULATE MATTER FROM BECOMING AIRBORNE

A. No person shall cause or permit the handling or transporting or storage of any material in a manner which allows or may allow unnecessary amounts of particulate matter to become air-borne.

B. No person shall cause or permit a building or its appurtenances or a road, or a driveway, or an open area to be constructed, used, repaired or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming air-borne. The Executive Secretary may require such reasonable measures as may be necessary to prevent particulate matter from beoming air-borne including but not limited to paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover.

10 CSR 10-5.110 RESTRICTION OF EMISSIONS OF SULFUR DIOXIDE FOR USE OF FUEL

(1) General Provisions

(A) This regulation shall apply to any installation which has indirect heating sources.

(B) The capacity of an installation shall be determined by summing the manufacturer's or designer's guaranteed maximum heat input rate of each indirect heating source.

(C) The method for determining the percent of sulfur in coal shall be as specified in 10 CSR 10-6.040, section 1. The method for determining the heat content of coal shall be as specified in 10 CSR 10-6.040, section 2.

(D) The method for determining the sulfur content of fuel oil shall be as specified in 10 CSR 10-6.040, section 7.

(E) The method for determining the heat content of fuel oils shall be as specified in 10 CSR 10-6.040, section 3.

(F) The Director is authorized to take or cause to have taken samples of any fuel by any appropriate means, in any quantity which he finds necessary, at any reasonable time or place, for purposes of determining compliance with this regulation.

(2) Restrictions Applicable to Installations With a Capacity of 2,000 Million or More British Thermal Units Per Hour

(A) After March 24, 1970, no person shall cause or permit the emission of sulfur dioxide to the atmosphere from any installation with a capacity of 2,000 million or more British Thermal Units per hour in an amount greater than 2.3 pounds of sulfur dioxide per million British Thermal Units of actual heat input averaged on any consecutive three-hour time period unless that source is listed in Subsection (2) (B) or is subject to 10 CSR 10-5.280.

(B) The following existing installations shall limit their sulfur dioxide emissions into the atmosphere from the combustion of any fuels to the allowable amount of sulfur dioxide per million BTU of actual heat input listed below:

1. Facility	Emission Rate (Pounds Sulfur Dioxide Per Million BTU) — (daily average, 00:01 to 24:00):
Union Electric-Labadie Plant	4.8 (after Dec. 31, 1981)
Union Electric Portage des Sioux Plant	4.8

2. Prior to January 1, 1982 Union Electric shall burn at its Labadie plant a percentage blend of low sulfur coals such that emissions of sulfur dioxide do not exceed 4.8 pounds sulfur dioxide per million BTU heat input. The necessary percentage blend of low sulfur coal to achieve compliance with this emission limitation shall be determined by the following formula:

$$(PS1/HHV1 + (100-PS2/HHV2)\ 200 = 4.8$$

Where:

P = % Low Sulfur Coal

S1 = % Sulfur Content of Low Sulfur Coal

S2 = % Sulfur Content of High Sulfur Coal

HHV1 = Higher Heating Value of Low Sulfur Coal, BTU/lb

HHV2 = Higher Heating Value of High Sulfur Coal, BTU/lb

Union Electric Company shall compute and submit to the Director for his approval the percent blend of low sulfur coal to be burned during the year. The Company shall base its calculation on the average sulfur content of the coals to be burned at the Labadie plant during the upcoming year. Such determination, after the first determination under this subsection (B), shall be made prior to January 1 of each year, and shall be effective as the emission limitation for the Labadie plant upon receipt by Union Electric of the Director's notification of approval of the determination. Compliance with this emission limitation shall be demonstrated by union Electric on a calendar month basis, by a report addressed to the Director not later than 15 days after the end of the month. After December 31, 1981, the emission limitation for the Labadie plant shall be 4.8 pounds of sulfur dioxide per million BTU actual heat input, determined in accordance with subsection (C) of this section.

(C) 1. Owners or operators of sources and installations subject to section (2) of this regulation shall furnish the Director such data as he may reasonably require to determine whether a source or installation is being operated in compliance with section (2) of this regulation.

2. Each source subject to limitations under paragraph (2) (B) 1. may emit sulfur dioxide at a rate not to exceed the allowable emission rate by more than twenty (20) percent for not more than three (3) days in any month.

3. A. Compliance with paragraph (2)(B)1. shall be demonstrated by sulfur dioxide and either carbon dioxide or oxygen continuous monitoring devices, which devices shall, within 90 days of the date paragraph (2)(B)1. becomes effective as to any source, or before January 1, 1982 in the case of Union Electric Company's Labadie plant, be certified by the owner or operator to be installed and operational in accordance with Performance Specifications 2 and 3, 40 CFR, Part 60, Appendix B (1977). Such devices shall also be operated and maintained in accordance with the procedures and standards set out at 40 CFR 60.13 (d) and 60.13 (e) (2) (1977).

B. The owner or operator of each source subject to this paragraph shall submit a written report of excess emissions for each calendar quarter to the Director within 30 days following the end of the quarter. Each quarterly report shall contain the magnitude in pounds per million BTU of all daily (00:01 to 24:00) averages of sulfur dioxide emissions greater than the emission rate allowed by paragraph (2)(B) 1. Each report shall identify each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of repairs and adjustments performed to make the system operative. Each report shall also contain a statement that no excess emissions occurred during the quarter, except as reported or during periods when the continuous monitoring system was inoperative. Data reduction and conversion procedures shall conform to the provisions of 40 CFR 60.13 (h) and 60.45 (e) and (f) (as corrected at 42 Fed. Reg. 41122) (1977).

C. Each owner or operator required to file quarterly reports under this paragraph shall maintain a file of all information reported in the quarterly reports, all other data collected by the continuous monitoring system or necessary to convert the monitoring data to the units of the applicable emission limitation, all continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, monitoring system, monitoring device and performance testing measurements, and adjustments and maintenance performed on these systems or devices, for a minimum of two years from the data of the quarterly report. Such file shall be kept available for inspection by the Director during regular business hours.

(3) Restrictions Applicable to Installations With a Capacity of Less than 2,000 Million British Thermal Units Per Hour

(A) During the months of Oct., Nov., Dec., Jan., Feb., and March of every year, no person shall burn or permit the burning of any coal containing more than 2.0 percent sulfur or of any fuel oil containing more than 2.0 percent sulfur in any installation having a capacity of less than 2,000 million British Thermal Units per hour. Otherwise, no person shall burn or permit the burning of any coal or fuel oil containing more than 4.0 percent sulfur in any installation having a capacity of less than 2,000 million British Thermal Units per hour.

(B) Subsection (A) of this section (3) shall not apply to any installation if it can be shown that emissions of sulfur dioxide from such installation into the atmosphere will not exceed 2.3 pounds per million BTU of heat input to the installation.

(4) Unlawful Conduct

(A) It shall be unlawful for any person to import, sell, offer for sale, expose for sale, exchange, deliver or transport for use and consumption in the St. Louis metropolitan area or to use or consume in said area any fuel which is not from an approved source or which does not meet the requirements of this regulation unless it is shown by any such person that emission of sulfur dioxide from use of such fuel will not exceed 2.3 pounds of sulfur dioxide per million British Thermal Units of heat input to the installation in which it is to be burned.

10 CSR 10-5.120 INFORMATION ON SALES OF FUELS TO BE PROVIDED AND MAINTAINED

A. Tickets to Be Furnished and Retained

After thirty days from the effective date of these regulations, every delivery of coal or residual fuel oil when first delivered to a consumer or wholesaler in the St. Louis metropolitan area must be accompanied by a ticket prepared in triplicate and containing at least the name and address of the seller and the buyer and the source of the fuel. Tickets on delivery of coal shall also show the ash content of the coal. One copy of each ticket shall be kept by the person delivering the fuel and be retained for one year; one copy is to be given to the recipient of the fuel to be retained for one year; and upon request, within 30 days after delivery of the fuel, the delivering party shall mail one copy to the Air Conservation Commission.

B. Lists May Be Published

The Executive Secretary is authorized to publish lists of approved sources or other descriptive lists of fuels available in the area which meet the requirements of these regulations.

10 CSR 10-5.130 CERTAIN COALS TO BE WASHED

A. Certain Coals to Be Washed

After December 1, 1968, it shall be unlawful for any person to import, sell, offer for sale, expose for sale, exchange, deliver or transport for use or consume in the said area any coal which as mined contains in excess of 2.0 percent sulfur or 12.0 percent ash calculated as described in Regulation X, unless it shall have been cleaned by a process known as "washing" so that it shall contain no more than 12.0 percent ash on a dry basis. The term "washing" is meant to include purifying, cleaning, or removing impurities from coal by mechanical process, regardless of cleaning medium used.

B. Samples May be Taken

The Executive Secretary is authorized to take or cause to be taken samples of any coal at any reasonable time or place for purposes of determining compliance with this regulation.

C. Exception

This regulation shall not apply if a person proposing to use unwashed coal can show that the emission of sulfur dioxide from the plant in which the coal is to burned will not exceed 2.3 pounds of sulfur dioxide per million B.T.U.'s of heat input to the installation and that emission of particulate matter will be no more than that allowed in Regulation II.

10 CSR 10-5.150 EMISSION OF CERTAIN SULFUR COMPOUNDS RESTRICTED

Restricted

Purpose: This regulation establishes the maximum allowable concentration of sulfur compounds in source emissions and in the ambient air; except where 10 CSR 10-5.280 would be applied.

(1) General Provisions

(A) Section (2) of this rule shall apply to all emissions except those emissions from:

1. Indirect heating sources.

2. Existing lead smelting and/or refining sources.

(B) Section (3) shall apply to all emissions from any source or sources whatsoever.

(C) Section (4) shall apply to those emissions from existing lead smelting and/or refining or related activities.

(D) The method of measuring sulfur trioxide and sulfuric acid or any combination thereof in stack gases shall be as specified in 10 CSR 10-6.030, Section (8), (EPA Reference Method 8).

(E) The method of measuring hydrogen sulfide in the ambient atmosphere shall be as specified in 10 CSR 10-6.040, Section (5).

(F) The method of measuring sulfur dioxide in stack gases shall be as specified in 10 CSR 10-6.030, (Section (6), (EPA Reference Method 6 or 8).

(G) The method of measuring sulfuric trioxide and sulfur acid or any combination thereof suspended in the ambient atmosphere shall be as specified in 10 CSR 10-6.040, Section (6).

(H) The method of measuring sulfur dioxide in the ambient atmosphere shall be as specified in 10 CSR 10-6.040, Section (4).

(2) Concentration of Sulfur Compounds in Emissions Restricted

(A) No person shall cause or permit the emission into the atmosphere from any existing source specified in subsection (1)(A) of this regulation, gases containing more than 2000 parts per million by volume of sulfur dioxide or 500 parts per million by volume of sulfur diuxide from any new source.

(B) No person shall cause or permit the emission into the atmosphere from any source specified in subsection (1)(A) of this regulation, gases containing more than 70 milligrams per cubic meter of sulfuric acid or sulfur trioxide or any combination thereof or 35 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof from any new source (expressed as sulfuric acid).

(3) Emission of Sulfur Compunds in Certain Amounts and Manner Restricted

(A) In addition to the limitations specified in Sections (2) and (4) of this rule, no person may cause or permit the emission of sulfur dioxide from any source which causes or contributes to concentrations and frequencies exceeding those specified in the following table in the ambient air at any area to which the general public has access:

Concentration* *Parts per million by Volume	Averaging Time	Maximum Allowable Frequency
.50 ppm or more	3 hours	Once in any year
.14 ppm or more	24 hours	Once in any year
.03 ppm or more	1 year	Not to be exceeded

(B) No person shall cause or permit the emission of sulfuric acid or sulfur trioxide or any combination thereof from any source which causes or contributes to concentrations and frequencies exceeding those specified in the following table in the ambient air at any area to which the general public has access:

Concentration (milligrams per cubic meter at standard conditions, measured and calculated as sulfuric acid) of sulfuric acid or sulfur trioxide or any combination thereof	Averaging Time	Maximum Allowable Frequency
0.03 mg/cubic meter or more	30 minutes	Once in any 48 hours
0.01 mg/cubic meter or more	24 hours	Once in any 90 days

(C) No person shall cause or permit the emission of hydrogen sulfide from any source which causes or contributes to concentrations and frequencies exceeding those specified in the following table in the ambient air at any area to which the general public has access:

Concentration* *Parts per million by volume	Averaging Time	Maximum Allowable Frequency
0.03 ppm	30 minutes	Twice in any 5 consecutive days
0.05 ppm	30 minutes	Twice a year

(4) Emissions of Sulfur Dioxide from Existing Lead Smelters and Refineries Restricted.

(A) Each of the following existing installations engaged in smelting and/or refining lead shall limit its sulfur dioxide emissions from the sources or stacks, as described hereinbelow, to the amount of sulfur dioxide set forth below:

Facility	Emission Limitation (Pounds SO2/HR.)
St. Joe Lead Co. Smelter and Refinery - Herculaneum, Mo. -	
Single Stack	20,000

(B) Compliance with subsection (4)(A) shall be determined by source testing as referenced in 10 CSR 10-6.030, section (6), except that the source testing shall consist of averaging three (3) separate one-hour tests using the applicable testing method.

10 CSR 10-5.160 CONTROL OF ODORS IN THE AMBIENT AIR

A. No person shall emit odorous matter such as to cause an objectionable odor

1. on or adjacent to residential, recreational, institutional, retail sales, hotel or educational premises,

2. on or adjacent to industrial premises when air containing such odorous matter is diluted with 20 or more volumes of odor-free air,

3. on or adjacent to premises other than those in 1 and 2 when air containing such odorous matter is diluted with four or more volumes of odor-free air.

B. The above requirement shall apply only to objectional odors. An odor will be deemed objectionable when 30 percent or more of a sample of the people exposed to it believe it to be objectionable in usual places of occupancy, the sample size to be at least 20 people or 75 percent of those exposed if fewer than 20 people are exposed.

10 CSR 10-5.170 CONTROL OF ODORS FROM PROCESSING OF ANIMAL MATTER

A. General

1. For purposes of this regulation the word "reduction" is defined as any heated process, including rendering, cooking, drying, dehydrating, digesting, evaporating, and protein concentrating. Animal matter is defined as any product or derivative of animal life.

2. The provisions of this regulation shall not apply to any device, machine, equipment or other contrivance used exclusively for the processing of food for human consumption in food service establishments.

   For purposes of this regulation a food service establishment shall be defined as follows: Any fixed or mobile restaurant; coffee shop; cafeteria; short order cafe; luncheonette; grill; tearoom; sandwich shop; soda fountain; tavern; bar; cocktail lounge; night club; roadside stand; industrial feeding establishment; private, public or nonprofit organization or institution routinely serving food, catering kitchen, commissary, or similar place in which food or drink is placed for sale or for service on the premises or elsewhere; and any other eating or drinking establishment or operation where food is served or provided for the public with or without charge.

B. Odor Control Equipment Required on Reduction Processes

1. No person shall operate or use any device, machine, equipment or other contrivance for the reduction of animal matter unless all gases, vapors, and gas-entrained effluents from such facility are incinerated at a temperature of not less than 1200 degrees Fahrenheit for a period of not less than 0.3 second, or processed in such manner as determined by the Executive Secretary to be equally or more effective for the purpose of air pollution control.

A person incinerating or processing gases, vapors or gasentrained effluents pursuant to this rule shall provide, properly install and maintain, in good working order and in operation, devices as specified by the Executive Secretary for indicating temperature, pressure, or other operating conditions.

C. Other Odor Control Measures Required

1. Effective devices and/or measures shall be installed and operated such that no vent, exhaust pipe, blow-off pipe or opening of any kind shall discharge into the outdoor air any odorous matter, vapors, gases, or dusts or any combination thereof which create odors or other nuisances in the neighborhood of the plant.

2. Odor producing materials shall be stored and handled in a manner such that odors produced from such materials are confined. Accumulation of odor producing materials resulting from spillage or other escape is prohibited.

3. Odor bearing gases, vapors, fumes, or dust arising from materials in process shall be confined at the point of origin so as to prevent liberation of odorous matter. Confined gases, vapors, fumes, or dusts shall be treated before discharge to the atmosphere as required in subsection C(1).

D. Enclosure of Building May Be Required

Whenever dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building used for processing of animal matter in such manner and amount as to cause a violation of Regulation XV, the Executive Secretary may order that the building or buildings in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building are treated by incineration or other effective means for removal or destruction of odorous matter or other air contaminants before discharge into the open air.

10 CSR 10-5.180 EMISSION OF VISIBLE AIR CONTAMINANTS FROM INTERNAL COMBUSTION ENGINES

A. No person shall cause or permit the emission of visible air contaminants from any internal combustion engine for more than 10 consecutive seconds at any one time.

B. When the presence of uncombined water is the only reason for failure of an emission to meet the requirements of this regulation, the provisions of this regulation shall not apply.

10 CSR 10-5.190 : APPROVAL OF PLANNED INSTALLATIONS

B. General

1. No owner or operator shall commence construction or modification of any air contaminant source after the effective date of this regulation without first obtaining a permit from the Executive Secretary.

2. Each application for a construction permit shall be accompanied by site information, plans, descriptions, specifications, and drawings showing the design of the source, the nature and amount of emissions, and the manner in which it will be operated and controlled.

3. Any additional information, plans, specifications, evidence or documentation that the Executive Secretary may require shall be furnished upon request.

4. The Executive Secretary shall determine if the ambient air quality standards in the vicinity of the source are being exceeded, and shall determine the impact on the ambient air quality standards from the source prior to granting a permit to construct or modify. No permit to construct or modify shall be issued if it is determined that the proposed source will prevent the attainment or maintenance of ambient air quality standards, or violate any of the regulations pursuant to Chapter 203, RSMo.

5. Upon receipt of an application, the Executive Secretary shall act promptly, and shall notify the applicant in writing of his approval, conditional approval, or denial of the application. The Executive Secretary will set forth his reasons for any denial.

6. The Executive Secretary may impose any reasonable conditions, upon a permit, including conditions requiring the source to be provided with:

    a. Sampling ports of a suitable size, number and location,

    b. Safe access to each port,

    c. Instrumentation to monitor and record emission data, and

    d. Other sampling and testing facilities.

7. A permit may be cancelled if construction or modification work is not begun within two (2) years from the date of issuance, or if work is suspended for one (1) year.

8. Any owner or operator subject to the provisions of this regulation shall furnish the Executive Secretary written notification as follows:

    a. A notification of the anticipated date of initial startup of source not more than 60 days or less than 30 days prior to such date.

    b. A notification of the actual date of initial startup of a source within 15 days after such date.

9. Within 60 days after achieving the maximum production rate at which the source will be operated, but not later than 180 days after initial startup of such source, the owner or operator of such source shall conduct performance test(s) in accordance with methods and under operating conditions approved by the Executive Secretary and furnish the Executive Secretary a written report of the results of such performance test.

    a. Such tests shall be at the expense of the owner or operator.

    b. The Executive Secretary may monitor such tests and may also conduct performance tests.

    c. The owner or operator of a source shall provide the Executive Secretary 15 days prior notice of the performance test to afford the Executive Secretary the opportunity to have an observer present.

10. Approval to construct shall not relieve any owner or operator of the responsibility to comply with other local, state and federal regulations.

C. Exceptions:

1. Fuel burning equipment which use gas or oil or grade #3 or lighter for space heating, air conditioning, or heating water; is used in a private dwelling; or has a heat input as specified by the manufacturer or designer of less than 350,000 BUT's per hour.

2. Mobile internal combustion engines.

3. The construction of a private residence.

4. Portable equipment including, but not limited to rock crushers, asphalt plants, and concrete batching plants shall be exempted from the requirements of this regulation after an initial permit has been obtained, provided that:

    a. Each new location is reported to the Executive Secretary as early as possible, but in no case later than fourteen (14) days prior to ground breaking or initial equipment erection.

    b. The equipment that was originally approved, shall be operated and maintained in a manner identical to that as specified in the initial construction permit.

5. Planned periodic modification of air contaminant sources shall be exempted from the requirements of this regulations, provided that:

    a. A prior permit has been obtained for all planned air contaminant sources, and,

    b. Each modification be reported to the Executive Secretary as soon as possible, and,

   c. The prior permit contains provisions for controlling emissions from all probable air contaminant sources that may be expected to come into existence as a result of the periodic modification.

6. Other sources of minor significance specified by the Executive Secretary.

10 CSR 10-5.200 MEASUREMENT OF EMISSIONS OF AIR CONTAMINANTS

A. Responsible Persons to Have Tests Made

The Executive Secretary may require any person responsible for emission of air contaminants to make or have made tests to determine the emission of air contaminants from any source, whenever the Executive Secretary has reason to believe that an emission in excess of that allowed by an air pollution regulation is occurring. The Executive Secretary may specify testing methods to be used in accordance with good professional practice. The Executive Secretary may observe the testing. All tests shall be conducted by reputable, qualified personnel. The Executive Secretary shall be given a copy of the test results in writing and signed by the person responsible for the tests.

B. Executive Secretary May Make Tests

The Executive Secretary may conduct tests of emissions of air contaminants from any source. Upon request of the Executive Secretary the person responsible for the source to be tested shall provide necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.

10 CSR 10-5.210 SUBMISSION OF EMISSION INFORMATION

A. General Provisions

1. The owner or operator of any source shall, upon notification from the Executive Secretary, maintain records of the nature and amounts of emissions from such source and/or any other information as may be deemed necessary by the Executive Secretary to determine whether such source is in compliance with applicable emission limitations or other control measures.

2. The information recorded shall be reported to the Executive Secretary on a semiannual basis commencing with the first full semiannual period after the Executive Secretary's notification to such owner or operator of the record-keeping requirements. The semiannual periods are January 1 to June 30 and

July 1 to December 31, except that the initial reporting period shall commence on the date the Executive Secretary issued notification of the record keeping requirements.

3. The records required by this regulation shall be completed on forms furnished by or satisfactory to the Executive Secretary, and shall be submitted within 45 days after the end of each reporting period.

4. All information collected or recorded in accordance with the provisions of this regulation shall be retained by the owner or operator for two (2) years after the date on which the pertinent report is submitted.

10 CSR 10-5.220 REQUIREMENTS FOR CONSTRUCTION OF NEW GASOLINE STORAGE FACILITIES

(1) Definitions of terms as specified in this rule may be found in 10 CSR 10-6.020.

(2) Petroleum Storage Tanks

(A) No person shall cause or permit the storage in any stationary tank, reservoir or other container of more than 40,000 gallons capacity petroleum liquid having a true vapor pressure of 1.8 pounds per square inch absolute or greater at 70 degrees F, unless such tank, reservoir or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent volatile organic compound vapor or gas loss to the atmosphere or is designed or will be built, and equipped with one of the following vapor loss control devices:

1. A floating roof, consisting of a pontoon type, double-deck type, or internal floating cover or external floating cover, which will rest on the surface of the liquid contents and is equipped with a closure seal, or seals, to close the space between the roof edge and tank wall. Vessels with external floating roofs will meet the additional following requirements:

A. The vessel has been fitted with:

(I) a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal): or

(II) a closure or other device which controls VOC emissions with an effectiveness equal to or greater than a seal required under part (2)(A)1.A.(I) of this section and approved by the director.

B. All seal closure devices meet the following requirements:

(I) there are no visible holes, tears, or other openings in the seal(s) or seal fabric;

(II) the seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and,

(III) for vapor mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1/8 in.) width between the secondary seal and the tank wall shall not exceed 21.2 sq. cm. per meter of tank diameter (1.0 sq. in. per ft. of tank diameter).

C. All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

(I) equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and,

(II) equipped with projections into the tank which remain below the liquid surface at all times.

D. Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

E. Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and,

F. Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening.

2. A vapor recovery system with all tank gauging and sampling devices gas-tight except when gauging or sampling is taking place. The vapor disposal portion of the vapor recovery sysem shall consist of an adsorber system, condensation system, or equivalent vapor disposal system that processes the vapor and gases from the equipment being controlled.

3. Other equipment or means of equal efficiency for purposes of air pollution control as may be approved by the staff director.

(B) Control equipment described in paragraph (2)(A)1. shall not be permitted if the gasoline or petroleum liquid stored has a true vapor pressure of 11.1 pounds per square inch absolute or greater at 70 degrees F. All tank gauging and sampling devices shall be built so as to be gas-tight except when gauging or sampling is to take place.

(C) This section shall not apply to:

1. storage vessels for petroleum or condensate stored, processed, and/or treated at a drilling and production facility prior to custody transfer; or

2. storage vessels that contain a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia at 70 degrees F); and,

A. are of welded construction; and

B. presently possess a metallic-type shoe seal, a liquid-mounted liquid filled type seal, or other closure device of demonstrated equivalence approved by the director; or,

3. storage vessels of welded construction, equipped with a metallic-type shoe primary seal and have a shoe-mounted secondary seal; or,

4. storage vessels used to store waxy, heavy pour crude oil.

(D) Any owner or operator of a petroleum liquid storage vessel who must install a secondary seal or equivalent in order to achieve compliance, shall meet the applicable increments of progress contained in the following schedule:

1. submit final plans for the emission control system before December 15, 1980;

2. award contracts for the emission control system before February 1, 1981;

3. initiate onsite construction or installation of the emission control equipment before April 15, 1981;

4. complete onsite construction or installation of the emission control equipment before August 15, 1981; and

5. achieve final compliance before October 1, 1981.

(3) Gasoline Loading

(A) No person shall cause or permit the loading of gasoline into any tank truck, trailer, or railroad tank car from any loading facility unless the loading facility is equipped with a vapor recovery system or its equivalent approved by the staff director.

(B) Loading shall be accomplished in such a manner that the displaced vapors and air will be vented only to the vapor recovery system. Measures shall be taken to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected. The vapor disposal portion of the vapor recovery system shall consist of one of the following:

1. An adsorber system, condensation system, or equivalent vapor disposal system that processes the vapors and gases from the equipment being controlled and limits the discharge of volatile organic compounds into the atmosphere to 0.50 grams of volatile organic compound

vapor per gallon of gasoline loaded.

2. A vapor handling system that directs the vapor to a fuel gas system.

3. Other equipment of an efficiency equal to or greater than 1. or 2. if approved by the staff director.

(C) This section shall not apply to loading facilities whose average monthly throughput is less than or equal to 600,000 gallons, provided that the facility loads gasoline by submerged loading.

(4) Gasoline Transfer

(A) No person shall cause or permit the transfer of gasoline from any delivery vessel into any stationary storage container with a capacity greater than 2,000 gallons unless such container is equipped with a submerged fill pipe and a vapor recovery system or another system of an equal efficiency if approved by the staff director. Stationary storage containers with a capacity between 250 and 2,000 gallons shall be equipped only with a submerged fill pipe.

1. The vapor recovery system shall collect no less than 90 percent by volume of the vapors displaced from the stationary storage container during gasoline transfer and return said vapors via a vapor-tight return line to the delivery vessel.

2. The vapor recovery system shall be so constructed as to ensure that the vapor-tight return line is connected before gasoline can be transferred into the container.

3. A delivery vessel may be refilled within the St. Louis Metropolitan Area only at installations equipped with a vapor recovery system or equivalent as described in section (3).

4. This section shall not be construed to prohibit safety valves or other devices required by governmental safety regulations.

(B) The provisions of subsection (4)(A) shall not apply to the following:

1. Stationary containers having a capacity less than 2,000 gallons used exclusively for the fueling of implements of agriculture.

2. Any stationary container having a capacity less than or equal to 2,000 gallons installed prior to September 15, 1976.

3. Transfer made to storage tanks equipped with floating roofs or their equivalent.

4. Transfer made from a delivery vessel that has been loaded by a facility exempted by subsection (3)(C).

(5) No person shall operate, use, or maintain a gasoline delivery vessel which is loaded or unloaded at an installation subject to section (3) or subsection (4)(A) of this rule unless the delivery vessel:

(A) at all times sustains a pressure change of no more than 750 pascals (3 in. of H2O) in 5 min. when pressurized to a gauge pressure of 4,500 pascals (18 in. of H2O) or evacuated to a gauge pressure of 1,500 pascals (6 in. of H2O);

(B) is repaired by the owner or operator and retested within 15 days of testing if it does not meet the criteria of subsection (5)(A) of this rule.

(C) Any owner or operator of a delvery vessel or vapor recovery system subject to this rule shall be in compliance by January 1, 1981.

(6) The owner or operator of a vapor recovery system subject to this rule shall:

(A) design and operate the vapor recovery system and the gasoline loading equipment in a manner that prevents:

1. gauge pressure from exceeding 4,500 pascals (18 in. of H2O) in the delivery vessel;

2. a reading equal to or greater than 100 percent of the lower explosive limit (LEL, measured as propane) at 2.5 centimeters from all points on the perimeter of a potential leak source when measured by the method referenced in subsection (8)(B) during loading or transfer operations;

3. avoidable visible liquid leaks during loading or transfer operations;

(B) within 15 days, repair and retest a vapor recovery system that exceeds the limits in subsection (6)(A) of this rule.

(7) The director may, at any time, monitor a delivery vessel, vapor recovery system, or gasoline loading equipment by the methods referenced in subsections (8)(A) and (8)(B), to confirm continuing compliance with sections (5) or (6) of this regulation.

(8) Testing, Monitoring, and Reporting

(A) Test procedures to determine compliance with section (5) shall be as described in 10 CSR 10-6.030 pragraph (20)(B)1.

(B) Monitoring to confirm the continuing existence of leak tight conditions shall be as described in 10 CSR 10-6.030 paragraph (20)(B)2.

(C) Any owner or operator of a delivery vessel subject to this rule shall provide to the director the results of any test for tank leaks as required by 49 CFR parts 177 and 178 (October 1, 1978) (DOT Cargo Tank Hazardous Material Regulations).

(9) Compliance

(A) Compliance with this regulation by each affected facility shall be achieved according to the following schedule:

1. By February 1, 1977 - submit to the staff director the final control plan.
2. By February 1, 1978 - initiate on-site construction or installation of control equipment.
3. By July 1, 1978 - achieve final compliance.

10 CSR 10-5.230 CIRCUMVENTION

No person shall cause or permit the installation or use of any device of any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. This regulation shall not apply when the only violation involved is violation of a regulation based on concentration or presence of one or more air contaminants at locations beyond the premises on which a source or sources are located.

10 CSR 10-5.240 ADDITIONAL AIR QUALITY CONTROL MEASURES MAY BE REQUIRED WHEN SOURCES ARE CLUSTERED IN A SMALL LAND AREA

A. Areas to Which This Regulation Applies

1. This regulation shall apply to areas in which there are one or more existing sources and/or proposed new sources of particulate matter in any circular area with a diameter of two miles (including sources outside metropolitan area) from which the sum of particulate emissions allowed from such sources by regulations of general application are or would be greater than 2,000 tons per year or 500 pounds per hour.

2. This regulation shall apply in areas in which there are one or more existing sources and/or proposed new sources of sulfur dioxide in any circular area with a diameter of two miles from which the sum of sulfur dioxide emissions from such sources allowed by regulations of general application are or would be greater than 1,000 tons for any consecutive three months or 1,000 pounds per hour.

B. Air Conservation Commission May Prescribe More Restrictive Air Quality Control Measures

1. In areas where this regulation applies, as specified in Section A herein, the Air Conservation Commission may prescribe air quality control requirements that are more restrictive and more extensive than provided in regulations of general application.

10 CSR 10-5.250 TIME SCHEDULE FOR COMPLIANCE

Except as otherwise specified, compliance with the provisions of these regulations shall be according to the following time schedule:

A. All new installations shall comply as of going into operation.

B. All existing installations not in compliance as of the effective date shall be in compliance within six months of the effective date unless the owner or person responsible for the operation of the installation shall have submitted to the Executive Secretary in a form and manner satisfactory to him, a program and schedule for achieving compliance, such program and schedule to contain a date on or before which full compliance will be attained, and such other information as the Executive Secretary may require. If approved by the Executive Secretary such date will be the date on which the person shall comply.

The Executive Secretary may require persons submitting such program to submit subsequent periodic reports on progress in achieving compliance.

10 CSR 10-5.260 RULES FOR CONTROLLING EMISSIONS DURING PERIODS OF HIGH AIR POLLUTION POTENTIAL

A. General Provisions

1. This regulation shall apply to all emissions from any source or any premises.

2. It may apply to all or part of the metropolitan area depending upon which pollutant fulfills the requirements of subsection B(2) below, and whether or not air sampling reveals only a localized problem.

B. Air Pollution Alerts and Emergencies.

1. Alert and emergency level values are stated as:

    a. the product of the hourly sulfur dioxide concentration in parts per million, and the hourly particulate concentration in CoH per 1000 linear feet, or

    b. the concentrations of SO_2, CO, or oxidant.

    The basis of reference for the State of Missouri data shall be: Sulfur dioxide as measured by the continuous modified West-Gaeke method referenced in Regulation XIV A(7) or any other method standardized against such; particulates as measured by the automatic paper-tape sampler method, "ASTM Standard Method of Test for Particulate Matter in the Atmosphere, Optical Density of Filtered Deposit, D-1704-61"; Carbon monoxide as measured by the infrared spectrophotometer method, MSA Bulletin No. 0705-10, Instrument Division, Pittsburgh, Pennsylvania; photochemical oxidants as measured by "Analytical Methods of the 'Intersociety Committee on Methods for Ambient Air Sampling and Analyses', Health Laboratory Science, 1970".

2. Alert Values:

    a. Yellow Alert Value -- Any one of the following shall initiate the Yellow Alert:

        1. Product reaching 1.0 at any sampling station.

        2. Sulfur dioxide concentration reaching 0.36 ppm at any sampling station.

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3. Photochemical oxidant concentration reaching .13 ppm at any sampling station.

4. Carbon monoxide concentration reaching 30 ppm at any station.

b. Red Alert value -- Any one of the following shall initiate the Red Alert:

1. Product reaching 1.5 at any sampling station.

2. Sulfur dioxide concentration reaching .75 ppm at any sampling station.

3. Photochemical oxidant concentration reaching .3 ppm at any sampling station.

4. Carbon monoxide concentration reaching 40 ppm at any station.

c. Emergency Alert value -- Any one of the following shall initiate an Emergency Alert:

1. Product reaching 2.5 at any sampling station.

2. Sulfur dioxide concentration reaching 1 ppm at any sampling station.

3. Photochemical oxidant concentration reaching .60 ppm at any sampling station.

4. Carbon monoxide concentration reaching 60 ppm at any station.

C. Air Pollution Watch.

1. Air Pollution Watch procedures shall be initiated by the Executive Secretary upon receipt of a 36 hour high air pollution potential advisory (HAPPA) from the Environmental Science Services Administration (ESSA) Weather Bureau for an area including all or part of the metropolitan area.

2. The following Watch procedures shall apply:

a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Watch conditions exist.

b. Notify all affected governmental control agencies that Watch conditions exist, and that coordination of action is required.

c. Increase the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 2 hours, with continual hourly review, at a central control location.

d. Inform the general public through the news media that a high air pollution potential exists, the area or areas where high initial readings have been obtained from sampling, and encourage persons suffering from respiratory ailments or heart conditions to take whatever precautions are most appropriate.

e. Backyard incineration, including the open burning of leaves, tree trimmings, garbage, and other refuse shall be prohibited throughout the entire metropolitan area.

f. All variances or permits allowing open burning shall be temporarily rendered invalid for the duration of the high air pollution potential.

g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary shall be notified that Watch conditions exist. All such industries shall be requested to voluntarily begin actions to reduce emissions of air contaminants from their operations, consistent with the provisions of their Yellow Alert plans. See Table I.

h. The Executive Secretary may request through the news media that the use of automobiles be restricted to necessary driving only.

D. Yellow Alert

1. Yellow Alert procedures shall be initiated by the Executive Secretary if a high air pollution potential exists, and the following requirements are met:

    a. The Yellow Alert values are equalled or exceeded as the arithmetic mean for 4 consecutive hours at any one sampling station within the HAPPA advisory area, unless there is a current ESSA Weather Bureau forecast of meteorological improvement within the next 24 hours.

2. The following Yellow Alert procedures shall apply:

    a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that Yellow Alert conditions exist.

b. Notify all affected governmental control agencies that Yellow Alert conditions exist, and that coordination of action is required.

c. Notify all hospitals within the affected area that Yellow Alert conditions exist.

d. Increase the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1 hour, with continual hourly review at a central control location.

e. Inform the general public through the news media that a Yellow Alert exists, the geographical area or areas where the alert is applicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respiratory ailments or heart conditions to take the most appropriate and expedient precautions.

f. The Executive Secretary shall request very emphatically through the news media that all unnecessary use of automobiles be restricted, and that all entertainment functions and facilities be closed.

g. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Yellow Alert Conditions shall initiate such plans upon notification by the Executive Secretary. See Table I.

h. No open burning will be allowed anywhere within the metropolitan area.

E. Red Alert

1. Red Alert procedures shall be initiated by the Executive Secretary, if the following requirements are met:

   a. A 36 or 24-hour high air pollution potential advisory (HAPPA) from the ESSA Weather Bureau is in effect for all or part of the metropolitan area.

   b. The Red Alert values equalled or exceeded as the arithmetic mean for 4 consecutive hours at any one monitoring station within the area.

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The Red Alert can also be initiated if:

a. The Red Alert value is equalled or exceeded as the arithmetic mean for 12 consecutive hours, and a HAPPA forecasts stagnation for the following 12 hours, or

b. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 24 consecutive hours and a forecast of stagnation for the following 12 hours is received.

2. The following Red Alert procedures shall apply:

   a. Notify the technical staff, the chairman and members of the Missouri Air Conservation Commission that Red Alert conditions exist.

   b. Notify all affected governmental control agencies that Red Alert conditions exist and that coordination of action is required.

   c. Notify all hospitals within the affected area that Red Alert conditions exist.

   d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1 hour with continual hourly review at a central control location.

   e. Inform the general public through the news media that a Red Alert eixsts, the geographical area or areas where the alert is applicable, the emission and type of source or sources that initiated the alert, individual abatement actions which will help alleviate the problem, and encourage those with respiratory ailments or heart conditions to take the most appropriate and expedient precautions.

   f. Airlines operating within the Red Alert area shall be notified that such conditions exist, and that a reduction of flights out of the airport may be required.

   g. Non-local vehicular traffic may be diverted around the Red Alert area depending upon which pollutant or pollutants caused the alert.

   h. Local vehicular traffic shall through the news media be told to avoid certain areas, and emphatically told to restrict non-essential trips.

i. All incineration and open burning shall cease, regardless of location.

j. Facilities which are sources of air contaminant emissions and are required to file approved alert plans with the Executive Secretary for Red Alert conditions shall initiate such plans upon notification by the Executive Secretary. See Table II.

F. Air Pollution Emergency

1. Emergency procedures shall be initiated by the Executive Secretary, if the following requirements are met:

   a. A 36 or 24-hour high air pollution potential advisory (HAPPA) from the ESSA Weather Bureau is in effect for all or part of the metropolitan area.

   b. The air pollution emergency values are equalled or exceeded as the arithmetic mean of 4 consecutive hours at any one monitoring station.

   The air pollution emergency procedures can also be initiated if:

   a. The air pollution emergency value is equalled or exceeded as the arithmetic mean of 12 consecutive hours and a forecast of stagnation for the following 12 hours is received, or

   b. The Red Alert is equalled or exceeded as the arithmetic mean for 24 hours and a forecast of stagnation for the following 12 hours is received, or

   c. The Yellow Alert value is equalled or exceeded as the arithmetic mean for 26 hours and a forecast of stagnation for the following 12 hours is received.

2. The following emergency procedures shall apply:

   a. Notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that an emergency exists.

   b. Notify all affected governmental control agencies that an emergency exists, and that coordination of action is required.

   c. Notify all hospitals within the affected area that an emergency exists, and to be so prepared.

d. Increase, if necessary, the frequency of air monitoring at all sampling stations which are not continuous at intervals not exceeding 1/2 hour with continual half-hour review at a central control location.

e. Open burning and incineration shall cease throughout the area.

f. Facilities which are sources of air contaminant emissions and are required to have filed approved plans with the Executive Secretary shall initiate such plans upon notification by the Executive Secretary or his representative that air pollution emergency conditions exist. See Table III.

g. The use of motor vehicles is prohibited except in emergencies with the approval of local or state police.

h. All manufacturing facilities except those listed in F(2),(f) shall institute such action as will result in maximum reduction of air contaminants from their operations by ceasing, curtailing, or postponing operations to the extent possible without causing injury to persons or damage to equipment.

i. All airplane flight originating within the area of the air pollution emergency shall be cancelled.

j. All places of employment described below shall immediately cease operation during the air pollution emergency:

- Mining and Quarrying
- Contract Construction Work
- Wholesale Trade Establishments
- Schools and Libraries
- Governmental agencies except those needed to administer air pollution alert programs and other essential agencies determined by the Executive Secretary to be vital for public safety and welfare and needed to administer the provisions of these regulations.
- Retail trade stores except those dealing primarily in sale of food or pharmacies
- Banks, real estate agencies, insurance offices and similar businesses.
- Laundries, cleaners and dryers, beauty and barber shops and photographic studios.
- Amusement and recreational service establishments such as motion picture theaters.
- Automobile repair and automobile service garages.

- Advertising offices, consumer credit reporting, adjustment and collection agencies, printing and duplicating services, rental agencies and commercial testing laboratories.

G. Termination of Alerts

When in the judgment of the Executive Secretary meteorological conditions and pollutant concentrations are such to warrant discontinuance of any alert condition, he shall notify the technical staff, the chairman, and members of the Missouri Air Conservation Commission that the alert has been discontinued, and issue a public notice to that effect.

TABLE I

YELLOW ALERT PLAN OBJECTIVES

Air Contaminant Source	Requirements for Plan
1. Electric Power Generating Facilities	1a. Reduction of emission by utilization of fuels having low ash and sulfur content.
	b. Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (10:00 a.m. to 2:00 p.m.)
	c. Reduction of emissions by diverting electric power generation to facilities outside of area for which the alert is called.
2. Process Steam Generating Facilities having a rated heat input in excess of 10 million BTU/hr burning coal or fuel oil.	2a. Reduction of emissions by utilization of fuels having low ash and sulfur content.
	b. Soot blowing and boiler lancing to be allowed only during periods of high atmospheric turbulence (10:00 a.m. to 2:00 p.m.)
	c. Reduction of steam load demands consistent with continuing the operation of the plant.

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Air Contaminant Source	Requirements for Plan
3. Manufacturing industries of the following (SIC) group designations which employ more than twenty (20) employees at any one location:	3a. Reduction of air contaminant emissions by curtailing, postponing, or deferring production and allied operations.
Paper and Allied Products Industries Group 26	b. Stop all trade waste disposal practices which emit particles, gases, vapors or malodorous substances including incineration.
Chemicals and Allied Products Industries Group 28	c. Reduction of heat load demands for processing to a minimum
Petroleum Refining and related industries Group 29	
Stone, Glass; Clay and Concrete Product Industries Group 32	
Primary Metals Industries Group 33	
4. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	4a. Reduction of air contaminant emissions by curtailing or deferring production and allied operations.
	b. Stop all trade waste disposal practices which emit particles, gases, vapors or malodorous substances including incineration.
	c. Reduction of heat load demands for processing to a minimum.

Air Contaminant Source		Requirements for Plan
5. Public and commercial refuse disposal operations	5a.	Stop all open burning including disposal of diseased trees and burning at fire fighting schools.
	b.	Operation of incinerators shall be limited to the hours between 10:00 a.m. and 2:00 p.m.

TABLE II

RED ALERT PLAN OBJECTIVES

All Yellow Alert plans shall be continued. In addition, the following steps shall be taken.

Air Contaminant Source		Requirements for Plan
1. Process steam generating facilities having a rated heat input in excess of 10 million BTU/hr burning coal or fuel oil.	1a.	Maximum reduction of air contaminant emissions by utilization of fuels having the lowest ash and sulfur content.
	b.	Maximum utilization of periods of high atmospheric turbulence (10:00 a.m. to 2:00 p.m.) for soot blowing and boiler lancing.
2. Manufacturing industries of the following SIC Group designations which employ more than twenty (20) employees at any one location: Paper and Allied Products Industries Group 26 Chemical and Allied Products Industries Group 28	2a.	Maximum reduction of air contaminant emission by, if necessary, postponing production and allied operations.

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Air Contaminant Source	Requirements for Plan
2. Petroleum Refining and Related Industries Group 29 Stone, Glass, Clay and Concrete Product Industries Group 32 Primary Metals Industries Group 33	2b. Maximum reduction of heat load demands for processing.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary.	3a. Maximum reduction of air contaminant emissions by, if necessary, postponing production and allied operations.
4. Public and commercial refuse disposal operations.	4a. Stop operation of all incinerators.

TABLE III

AIR POLLUTION EMERGENCY PLAN OBJECTIVES

All Yellow and Red Alert plans shall be continued. In addition, the following steps shall be taken:

Air Contaminant Source	Requirements for Plan
1. Process steam generating facilities having a rated heat input in excess of 10 million BTU/hr burning coal or fuel oil	1a. Maximum reduction of air contaminant emissions by reducing heat and steam load demands to values consistent with preventing equipment damage. b. Maximum utilization periods of high atmospheric turbulence (10:00 a.m. to 2:00 p.m.) for soot blowing and boiler lancing.

Air Contaminant Source		Requirements for Plan
2. Manufacturing industries of the following SIC Group designations which employ more than twenty (20) employees at any one location: Paper and Allied Products Industries Group 26 Chemicals and Allied Products Industries Group 28 Petroleum Refining and Related Industries Group 29 Stone, Glass, Clay and Concrete Product Industries Group 32 Primary Metals Industries Group 33	2a.	Elimination of air contaminant emissions from the manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
3. Other manufacturing facilities required to submit alert plans by the Executive Secretary	3a.	Elimination of air contaminant emissions from the manufacturing operation by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
	b.	Maximum reduction of heat load demands for processing.

10 CSR 10-5.270 PUBLIC AVAILABILITY OF EMISSION DATA

Emission data obtained from owners or operators of emission sources will be correlated with applicable emission limitations and other control measures, and will be made available to the public upon request.

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10 CSR 10-5.280 (St. Louis Metropolitan Area) "New Source Performance Standards".

A. The provisions of 40 CFR, Part 60 as of the effective date of this regulation shall apply and are adopted by reference as part of this regulation.

B. In any situation, the emission limitations imposed by this regulation and all existing regulations for the St. Louis Metropolitan Area shall be assessed and the more restrictive limitation shall apply.

10 CSR 10-5.290 MORE RESTRICTIVE EMISSION LIMITATIONS FOR SULFUR DIOXIDE AND PARTICULATE MATTER IN THE SOUTH ST. LOUIS AREA

(1) Applicability

(A) Except as otherwise provided, this regulation shall apply to all sources in an area bounded as follows: Beginning at St. Louis County on the west bank of the Mississippi River approximately 3500 feet south of the confluence of the River des Peres and Mississippi River at the intersection of an extension of Rippa Street and the bank of the Mississippi River, west along Rippa Street to Broadway, north on Broadway to Vincent, west on Vincent to Gentry, northeast on Gentry to Orient, northwest on Orient to Lemay Ferry Road, northeast on Lemay Ferry Road to Bayless Avenue, northwest on Bayless Avenue to Interstate 55, northeasterly on Interstate 55 crossing the boudary between the City and County of St. Louis to Loughborough, then easterly on Loughborough to the west bank of the Mississippi River, then south following the west bank of the Mississippi River to the point of beginning all lying within St. Louis City and St. Louis County.

(2) Restrictions Applicable to All Installations

(A) Restriction of Emissions of Fugitive Dust

1. No person may cause or permit the handling or transporting or storage of any material in a manner which allows particulate matter to become airborne in such quantities and concentrations that (1) it remains visible in the ambient air beyond the premises where it originates, or (2) that its presence may be found beyond the premises where it originates and it is larger than 40 microns in size. The size of the particulate matter shall be determined by microscopy or any other technique proven to be equally accurate.

2. No person may cause or permit a building or its appurtenances, or a road, or a driveway, or a parking lot, or an open area to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. The director, Department of Natural Resources may require a person owning, operating, or otherwise in control of the building, appurtenance, road, driveway, parking lot, or open area to take such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including but not limited to paving or frequent cleaning of roads, driveways, and parking lots; application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover or buffer zones.

3. No person may emit into the ambient air from any air contaminant source fugitive emissions greater than that which would be emitted after application of all reasonably available control technologies and all reasonable maintenance of plant and equipment.

(3) Restrictions Applicable to Great Lakes Carbon Corporation

(A) Restrictions of emissions of particulate matter

1. Great Lakes Carbon Corporation shall purchase and install a new larry car on their coke oven batteries which shall comply with the requirements listed in 29 CFR section 1910.1029 (41 FedReg 46784 October 22, 1976).

   A. The larry car shall be delivered by January 1, 1980.

   B. The larry car shall be erected by March 1, 1980.

   C. Testing and shakedown of the larry car shall be completed by June 1, 1980.

   D. After June 1, 1980, no visible emissions shall occur during charging except for a period of 120 seconds aggregated over six consecutive charges.

2. Great Lakes Carbon Corporation shall purchase and install a new level bar boot which shall be designed and installed in compliance with the requirements listed in 29 CFR section 1910.1029 (41 FedReg 46784 October 22, 1976).

   A. Equipment was purchased by January 11, 1978.

   B. Equipment shall be delivered by December 1, 1978.

   C. Equipment shall be installed by May 1, 1979.

3. Great Lakes Carbon Corporation shall control the coke pushing operation by modification of the existing hoods so they shall collect at least ninety percent (90%) of the particulate matter generated during the pushing operation.

   A. The hood fabrication shall be completed by March 1,1978.

   B. Hood modifications shall be completed by June 1, 1978.

4. Great Lakes Carbon Corporation shall control the emissions from the hood on the coke pushing operations

by installation of an air pollution control device for the emissions collected from the hoods. The particulate matter emissions from the air pollution control device shall be limited to .004 grains per standard dry cubic foot during the pushing cycle and .002 grains per standard dry cubic foot during the nonpushing cycle.

A. Engineering of the air pollution control device shall be completed by March 1, 1979.

B. Equipment shall be delivered by September 1, 1979.

C. Equipment shall be constructed by January 1, 1980.

D. Testing shall be completed and final compliance with this regulation by April 1, 1980.

5. Great Lakes Carbon Corporation shall control the visible emissions from their coke ovens to:

A. After November 1, 1978 no more than two percent (2%) of the operating charging hole lids having any visible emissions.

B. After November 1, 1978 no more than ten percent (10%) of the operating offtakes having any visible emissions.

C. After November 1, 1978 no more than fifteen percent (15%) of the operating pusher side coke oven doors having any visible emissions.

D. After June 1, 1980 the opacity from the battery stacks shall not exceed twenty percent (20%).

(4) Restrictions Applicable to N. L. Industries, Inc.

(A) Restriction of emissions of sulfur dioxide

1. Emissions from indirect heating sources at N. L. Industries, Inc. shall be limited to 1.8 pounds sulfur dioxide per million BTU actual heat input.

2. Emissions from calciners and ore digestors at N. L. Industries, Inc. shall be limited to 100 ppm sulfur dioxide.

3. Emissions from sulfuric acid plants at N. L. Industries, Inc. shall be limited to 500 ppm sulfur dioxide.

(B) Restriction of emissions of particulate matter

1. Emissions from indirect heating sources at N. L. Industries, Inc. shall be limited to 0.16 pounds particulate

emission per million BTU actual heat input.

2. Emissions from all other sources at N. L. Industries, Inc., except the calciners, shall be limited to 0.02 grains per standard dry cubic foot.

3. Emissions from the calciners at N. L. Industries, Inc. shall be limited to the provisions of regulation 10 CSR 10-5.050, paragraph (2)(A)1.

(C) Restrictions of emission of visible air contaminants

1. Emissions from sulfuric acid plants at N. L. Industries, Inc. shall not exceed ten percent (10%) capacity at any time.

2. Emissions from all other sources at N. L. Industries, Inc. shall not exceed twenty percent (20%) opacity at any time, except as provided in paragraph (4)(D)1.

(D) Exceptions

1. Sources subject to paragraph (4)(C)2. may discharge into the atmosphere from any single source of emission for a period or periods aggregating not more than six minutes in any 60 minutes, air contaminants of a shade or density not greater than forty percent (40%) opacity.

2. Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of paragraphs (4)(C)1. or 2. of this regulation, such sections shall not apply.

(E) Compliance schedule

1. All sources subject to subsection (4)(A) and paragraph (4)(B)3. shall be in compliance upon the effective date of this regulation.

2. All sources subject to paragraphs (4)(B)1. or 2. not in compliance at the effective date of this regulation shall purchase and install the necessary air pollution control devices to comply with the regulation no later than October 1, 1980, on the following schedule:

   A. Engineering plans for the air pollution control device shall be submitted by August 1, 1978.

   B. Air pollution control equipment shall be purchased by October 1, 1978.

   C. Air pollution control equipment shall be delivered by April 1, 1980.

D. Equipment shall be constructed by August 1, 1980.

E. Testing shall be completed and final compliance with this regulation by October 1, 1980.

(5) Method of Measurements

(A) The concentrations of particulate in stack gases shall be determined as specified in 10 CSR 10-6.030, section (5), except as provided in subsection (E) of this section.

(B) The concentration of sulfur dioxide emissions from air contaminant sources shall be determined as specified in 10 CSR 10-6.030, section (6).

(C) The visible emissions from air contaminent sources shall be evaluated as specified in 10 CSR 10-6.030, section (9), except as provided in subsections (G), (H), (I), and (J) of this section.

(D) The efficiency of the collection hood as specified in paragraph (3)(A)3. shall be determined as specified in 10 CSR 10-6.030, section (13).

(E) The concentration of particulate matter in stack gases as specified in paragraph (3)(A)4. of this rule shall be determined as specified in 10 CSR 10-6.030, section (14).

(F) Compliance with subparagraph (3)(A)1.D. of this rule shall be determined as specified in 10 CSR 10-6.030, section (15).

(G) Compliance with subparagraph 3(A)5.A. of this rule shall be determined as specified in 10 CSR 10-6.030, section (17).

(H) Compliance with subparagraph 3(A)5.B. of this rule shall be determined as specified in 10 CSR 10-6.030, section (16).

(I) Compliance with subparagraph 3(A)5.C. of this rule shall be determined as specified in 10 CSR 10-6.030, section (18).

10 CSR 10-5.300 Control of Emissions from Solvent Metal Cleaning

Purpose: This regulation specifies equipment, operating procedures, and training requirements for the reduction of hydrocarbon emissions from solvent metal cleaning operations in the St. Louis Metropolitan Area.

(1) Application

(A) This regulation shall apply throughout the City of St. Louis and St. Charles, St. Louis, Jefferson, and Franklin Counties.

(2) General Provisions

(A) No person shall cause or allow solvent metal cleaning or degreasing operations:

1. without operating procedures as contained in this regulation and as recommended by the equipment manufacturer; and

2. without the minimum operator and supervisor training as specified in this regulation; and,

3. unless the equipment conforms to the specifications listed in this regulation.

(B) This regulation applies to all processes, which use cold cleaners, open-top vapor degreasers, or conveyorized degreasers, using non-aqueous solvents to clean and remove soils from metal surfaces.

(C) The owner or operator of a solvent metal cleaning or degreasing operation shall keep inventory records of solvent purchases and solvent consumption for a period of two years and all such records shall be made available to the director upon his request.

(D) Definitions for key words used in this rule may be found in 10 CSR 10-6.020.

(3) Equipment Specifications

(A) Cold Cleaners

1. Each cold cleaner shall have a cover which will prevent the escape of solvent vapors from the solvent bath while in the closed position or an enclosed reservoir which will limit the escape of solvent vapors from the solvent bath whenever parts are not being processed in the cleaner.

2. When one (1) or more of the following conditions exist, the design of the cover shall be such that it can be easily operated with one hand and without disturbing the solvent vapors in the tank. (For covers larger than ten (10) square feet this shall be accomplished by either mechanical assistance such as spring loading or counter weighing or by power systems.)

   A. The solvent volatility is greater than 0.3 pounds per square inch measured at one hundred (100) degrees Fahrenheit such as in mineral spirits.

   B. The solvent is agitated.

   C. The solvent is heated.

3. Each cold cleaner shall have a drainage facility which will be internal so that parts are enclosed under the cover while draining.

4. If an internal drainage facility cannot fit into the cleaning system and the solvent volatility is less than 0.6 pounds per square inch measured at one hundred (100) degrees Fahrenheit, then the cold cleaner shall have an external drainage facility which provides for the solvent to drain back into the solvent bath.

5. Solvent sprays, if used, shall be a solid fluid stream (not a fine, atomized or shower-type spray) and at a pressure which does not cause splashing.

6. A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment.

7. Any cold cleaner which uses a solvent that has a solvent volatility greater than 0.6 pounds per square inch measured at one hundred (100) degrees Fahrenheit or heated above one hundred twenty (120) degrees Fahrenheit must use one of the following control devices:

   A. Freeboard height that gives a freeboard ratio greater than or equal to 0.7.

   B. Water cover (solvent must be insoluble in and heavier than water).

   C. Other systems of similar control, such as a refrigerated chiller or carbon adsorption.

(B) Open-Top Vapor Degreasers

1. Each open-top vapor degreaser shall have a cover which will prevent the escape of solvent vapors from the degreaser while in the closed position and shall be designed to open and close easily with one (1) hand and without disturbing the solvent vapors in the tank. For covers larger than ten (10) square feet this shall be accomplished by either mechanical assistance such as spring loading or counter weighing or by power systems.

2. Each open-top vapor degreaser shall be equipped with a vapor level safety thermostat with a manual reset, which shuts off the heating source when the vapor level rises above the cooling or condensing coil; or an equivalent safety device approved by the director.

3. Each open-top vapor degreaser shall be equipped with at least one (1) of the following control devices:

   A. For existing equipment a freeboard ratio of 0.5.

   B. For equipment installed after the effective date of this regulation, a freeboard ratio of at least 0.75.

C. A refrigerated chiller.

D. An enclosed design (the cover or door opens only when the dry part is actually entering or exiting the degreaser).

E. a carbon adsorption system with ventilation of at least fifty (50) cubic feet per minute per square foot of air vapor area when the cover is open, and exhausting less than twenty-five (25) parts per million of solvent by volume averaged over one (1) complete adsorption cycle, or

F. A control system approved by the department director after demonstration has shown it to have a control efficiency equivalent to or better than any of the above.

4. A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment.

(C) Conveyorized Degreasers

1. Each conveyorized degreaser shall have a drying tunnel or rotating (tumbling) basket or other means demonstrated to have equal to or better control which shall be used to prevent cleaned parts from carrying out solvent liquid or vapor.

2. Each conveyorized degreaser shall have the following safety switches or equivalent safety devices approved by the director which operate if the machine malfunctions.

   A. A vapor level safety thermostat with manual reset which shuts off the heating source when the vapor level rises just above the cooling or condensing coil.

   B. A spray safety switch, which shuts off the spray pump if the vapor level in the spray chamber drops 4 inches, for conveyorized degreasers utilizing a spray chamber.

3. Entrances and exits shall silhouette work loads so that the average clearance between parts and the edge of the degreaser opening is less than four (4) inches or less than ten percent (10%) of the width of the opening.

4. Covers shall be provided for closing off the entrance and exit during hours when the degreaser is not being used.

5. A permanent, conspicuous label summarizing the operating

procedures shall be affixed to the equipment.

6. If the air/vapor interface is larger than twenty-one and one-half (21.5) square feet, one (1) major control device shall be required. This device may be one of the following:

   A. A refrigerated chiller.

   B. Carbon adsorption system with ventilation of at least fifty (50) cubic feet per minute per square foot of the total entrance and exit areas (when down-time covers are open), and exhausting less than twenty-five (25) parts per million of solvent by volume averaged over a complete adsorption cycle, or

   C. A control system approved by the department director a control efficiency equivalent to or better than any of the above.

(4) Operating Procedures

(A) Cold Cleaners

1. Cold cleaner covers shall be closed whenever parts are not being handled in the cleaners or the solvent must drain into an enclosed reservoir.

2. Cleaned parts shall be drained in the freeboard area for at least fifteen (15) seconds or until dripping ceases, whichever is longer.

3. Whenever a cold cleaner fails to perform within the operating parameters established for it by this rule, the unit shall be shut down immediately and shall remain shut down until trained service personnel are able to restore operation within the established parameters.

4. Any waste material removed from a cold cleaner shall either be reduced to less than twenty percent (20%) volatile solvent by distillation on the premises before disposal or stored in closed containers for transfer to either a contract reclamation service or to a disposal facility approved by the department director under chapter 260, RSMo.

5. Waste solvent shall be stored in covered containers only.

(B) Open-Top Vapor Degreasers

1. The cover shall be kept closed at all times except when processing workloads through the degreaser.

2. Solvent carry-out shall be minimized in the following ways:

   A. Parts shall be racked, if practical, to allow full drainage.

   B. Parts shall be moved in and out of degreaser at less than eleven (11) feet per minute.

   C. Workload shall remain in the vapor zone at least thirty (30) seconds or until condensation ceases.

   D. Pools of solvent shall be removed from cleaned parts before removing parts from the degreaser freeboard area.

   E. Cleaned parts shall be allowed to dry within the degreaser freeboard area for at least fifteen (15) seconds or until visually dry, whichever is longer.

3. Porous or absorbent materials such as cloth, leather, wood, or rope shall not be degreased.

4. If workloads occupy more than half of the degreaser's open-top area, rate of entry and removal shall not exceed five (5) feet per minute.

5. Spray shall never extend above vapor level.

6. Whenever a vapor degreaser fails to perform within the operating parameters established for it by this rule, the unit shall be shut down until trained service personnel are able to restore operation within the established parameters.

7. Solvent leaks shall be repaired immediately or the degreaser shall be shut down.

8. Ventilation exhaust shall not exceed sixty-five (65) cubic feet per minute per square foot of degreaser open area unless proof is submitted that it is necessary to meet OSHA requirements. Fans shall not be used near the degreaser opening.

9. Water shall not be visually detectable in solvent exiting the water separator.

10. Any waste material removed from an open-top vapor degreaser shall either be reduced to less than twenty percent (20%) volatile solvent by distillation on the premises before disposal or stored in closed containers for transfer to either a contract reclamation service or to a disposal facility approved by the department director under chapter 260, RSMo.

11. Waste solvent shall be stored in covered containers only.

(C) Conveyorized Degreasers

1. Ventilation exhaust shall not exceed sixty-five (65) cubic feet per minute per square foot of degreaser opening unless proof is submitted that it is necessary to meet OSHA requirements. Fans shall not be used near the degreaser opening.

2. Solvent carry-out shall be minimized in the following ways:

   A. Parts shall be racked, if practical, to allow full drainage.

   B. Vertical conveyor speed shall be maintained at less than eleven (11) feet per minute.

3. Whenever a conveyorized degreaser fails to perform within the operating parameters established for it by this rule, the unit shall be shut down immediately and shall remain shutdown until trained service personnel are able to restore operation within the established parameters.

4. Solvent leaks shall be repaired immediately or the degreaser shall be shut down.

5. Water shall not be visually detectable in solvent exiting the water separator.

6. Covers shall be placed over entrances and exits immediately after conveyor and exhaust are shut down and removed just before they are started up.

7. Waste solvent shall be stored in covered containers only.

8. Any waste material removed from a conveyorized degreaser shall either be reduced to less than twenty percent (20%) volatile solvent by distillation on the premises before disposal or stored in closed containers for transfer to either a contract reclamation service or to a disposal facility approved by the department director under chapter 260, RSMo.

(5) Operator and Supervisor Training

(A) Only persons trained in at least the operational and equipment requirements specified in this regulation for their particular solvent metal cleaning process shall be permitted to operate the equipment.

(B) The supervisor of any person who operates a solvent metal cleaning process shall receive equal or greater operational training than the operator.

(C) Refresher training shall be given to all solvent metal cleaning equipment operators at least once each twelve (12) months.

(D) A record shall be kept of solvent metal cleaning training for each employee.

(6) Effective Dates of Compliance

(A) Owners or operators subject to this regulation shall be in compliance with operating procedures and operator and supervisor training requirements as described in sections (4) and (5) of this regulation no later than June 1, 1979.

(B) Owners or operators subject to this regulation shall comply with equipment specifications as described in section (3) of this regulation and associated equipment operating procedures within twelve (12) months of the effective date of this regulation.

(7) Exceptions

(A) Solvent metal cleaning operations using 1,1,1-Trichloroethane (Methyl Chloroform), Acetonitrile (Methyl Cyanide), or Trichlorotrifluoroethane (Refrigerant 113) will be exempt from the requirements of this rule.

(B) 1,1,1-Trichloroethane (Methyl Chloroform), Acetonitrile (Methyl Cyanide), and Trichlorotrifluoroethane (Refrigerant 113) have been implicated as having deletorius effects on stratospheric ozone and, therefore, may be subject to future regulations.

10 CSR 10-5.310 Liquefied Cutback Asphalt Paving

Restricted

Purpose: This regulation restricts volatile organic compounds emissions from cutback asphalt paving operations.

(1) Application

This rule limits the use or application of liquefied cutback asphalt in paving and maintenance operations on highways, roads, parking lots, and driveways.

(2) General

(A) After December 31, 1982 no person may cause or permit the use or application of liquefied cutback asphalts on highways, roads, parking lots, and driveways during the months of May, June, July, August, and September except as permitted in Section (3). This subsection refers to liquefied cutback aphalt which is directly applied for use in a plant-mix or road-mix.

(3) Exceptions

(A) The use or application of liquefied cutback asphalts is permitted if:

1. the liquefied cutback asphalt is used in a plant-mix or road-mix which is used solely for filling potholes or for emergency repairs; or

2. the liquefied cutback asphalt is used to produce a plant-mix manufactured for resale or for use outside the St. Louis Metropolitan Area; or

3. the liquefied cutback asphalt is to be used solely as an asphalt prime coat or an asphalt seal coat on absorbent surfaces.

10 CSR 10-5.320 Control of Emissions from Perchloroethylene Dry Cleaning Installations.

Purposes: This regulation restricts the emissions of volatile organic compounds (VOC) from perchloroethylene dry cleaning installations.

(1) Application

(A) This regulation applies to perchloroethylene dry cleaning installations.

(2) General

(A) No owner or operator shall cause or allow the operation of any perchloroethylene dry cleaning installation unless such facility meets the following requirements:

1. The entire dryer exhaust shall be vented through a carbon adsorber or equally effective control device such that the maximum solvent concentration in the vent from the dryer control device shall not exceed 100 ppmv before dilution.

2. There shall be no liquid leakage from the system.

3. Filter and distillation wastes.

A. The residue from all diatomaceous earth filters shall be cooked or treated so that wastes shall not contain more than 25 kg (55 lb) of solvent per 100 kg (220 lb) of wet waste material.

B. The residue from all solvent stills shall not contain more than 60 kg (132 lb) of solvent per 100 kg (220 lb) of wet waste material.

C. Filtration cartridges shall be drained in the filter housing for 24 hours, or in other sealed container before being discarded. The drained cartridges should be dried in the dryer tumbler after draining if at all possible.

(3) Exceptions

(A) Paragraph (2)A)1. of this regulation shall not be applicable to: Installations which clean 40,000 lbs. clothing or less per year, coin-operated installations, installations where an adsorber can not be accommodated because of inadequate space, or installations where no or insufficient steam capacity is available to desorb adsorbers. The director may exclude other installations from the provisions of paragraph (2)(A)1. of this regulation if it is demonstrated that other hardships or economics justify such an exclusion.

(4) Compliance Schedules

(A) The owner or operator of a perchloroethylene dry cleaning installations subject to paragraph (2)(A)1. of this regulation must meet the applicable increments of progress in the following schedule:

1. Award contracts, issue purchase orders, or otherwise order the emission control system and process equipment, before April 1, 1981;

2. Complete installation of the emission control and process equipment, before March 1, 1982;

3. Achieve final compliance, determined in accordance with Section (5), before April 1, 1982; and

4. In the event that equipment cannot be delivered prior to February 1, 1982 and the owner or operator placed the order prior to April 1, 1981, the final compliance date shall be 60 days following delivery of the equipment.

(B) The owner or operator of a perchloroethylene dry cleaning facility subject to this regulation must comply with the operational and maintenance provisions of paragraphs (2)(A) 2. and (A)3. by April 1, 1981.

(5) Compliance Methods

(A) Compliance with subparagraph (2)(A)3.C. of this regulation shall be determined by means of a visual inspection.

(B) Compliance with paragraph (2)(A)1. of this regulation shall be determined by

1. means of a visual inspection, and

2. the testing method referenced in 10 CSR 10-6.030 (20)(A).

(C) Compliance with paragraph (2)(A)2 of this regulation shall be determined by means of a visual inspection of the following components:

1. Hose connections, unions, couplings and valves; machine door gaskets and seatings; filter and head gasket and seatings; pumps; basetanks and storage containers; water separations; filter sludge recovery; distillation unit; diverter valves; saturated lint from lint basket; and cartridge filters.

(D) Compliance with subparagraphs (2)(A)3.A. and B. of this regulation shall be determined by the testing method reference in 10 CSR 10-6.040(8).

10 CSR 10-5.330 Control of Emissions from Industrial Surface Coating Operations.

(2) Emission Limitations

(A) Surface Coating Emission Limits

Surface Coating Process	Emission Limit lb/gal Coating (minus water)	Dates of Compliance
Large appliance		
Topcoat	2.8	12/31/81
Final Repair	6.5	12/31/81
Magnet wire	1.7	12/31/81
Metal furniture	3.0	12/31/81
Auto/light duty truck		
Chrysler Car		
Prime - Electrocoat	1.2	12/31/85
Spray Prime	4.2	12/31/79
	3.4	12/31/83
	2.8	12/31/85
Topcoat	3.9	12/31/79
	3.0	12/31/84
	2.5	12/31/85
Final repair	4.8	12/31/81

Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
Chrysler Truck		
Prime - Electrocoat	1.2	12/31/84
Spray Prime	4.4	12/31/79
	3.4	12/31/82
	2.8	12/31/84
Topcoat	3.9	12/31/79
	2.5	12/31/84
Final Repair	4.8	12/31/81
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
Ford Motor Company		
Prime		
with electrocoat	1.2	12/31/82
	3.2	12/31/83
Spray Prime		
Topcoat	3.6	12/31/84
Final repair	4.8	12/31/84
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
General Motors Car		
Cathodic Electrocoat	1.2	12/31/82
Primer Surfacer	3.0	12/31/82
	2.8	12/31/84
Topcoat	5.8	12/31/79
	5.0	12/31/81
	2.8	12/31/84
Final repair	6.5	7/01/79
	4.8	12/31/84
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
General Motors Truck		
Prime - Elpo	1.2	12/31/82
Prime - Surfacer	2.8	12/31/85
Topcoat	3.6	12/31/81
	2.8	12/31/85
Final Repair	4.8	12/31/79

Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
General Motors Corvette		
Prime	3.6	12/31/84
Topcoat	2.8	12/31/84
Final repair	4.8	12/31/84
Miscellaneous Metal Parts		
Extreme Performance and Air Dried Coatings	3.5	12/31/82
All Other Coatings	3.0	12/31/82
Paper	2.9	12/31/81
Vinyl	3.8	12/31/81
Fabric	2.9	12/31/81
Coil	2.6	12/31/81
Can		
2 piece exterior	4.0	12/31/82
sheet basecoat	2.8	12/31/85
2 and 3 piece interior body spray	4.2	12/31/82
2 piece and exterior	4.2	12/31/82
3 piece side seam	5.5	12/31/82
End seal compound	4.2	12/31/82
	3.7	12/31/85
Aerospace Assembly and Components		
Primer	6.0	12/31/82
Topcoat	5.5	12/31/82
	5.0	12/31/85
Maskant	3.0	12/31/82
	1.0	12/31/85
Railroad Cars		
Farm Implements and Machinery, and Heavy Duty Trucks	3.5	12/31/82
Other Metal Parts		
Clear Coat	4.3	12/31/82
Extreme Performance and Air Dried Coating	3.5	12/31/82
All Other Coatings	3.0	12/31/82

(3) Exceptions

(A) This regulation will not apply to any installation which emits

1. Less than 50 tons per year from the coating of Automobiles, light duty trucks, large appliances, magnet wire, metal furniture, paper, vinyl, fabric, coil, or cans.

2. Less than 10 tons per year from the coating of all other miscellaneous metal parts.

(B) This regulation is not applicable to the surface coating of the following metal parts and products:

1. Exterior refinishing of airplanes;

2. Automobile refinishing;

3. Customizing top coating of automobiles and trucks, if production is less than 35 vehicles per day;

4. Exterior of marine vessels;

5. The following Aerospace Assembly and Component Coating operations and materials:

A. Adhesion promoters
B. Adhesive bonding primer
C. Flight test coatings
D. Space vehicles coatings
E. Fuel tank coatings
F. Dry film lubricants.

10 CSR 10-5.340 Control of Emissions from Rotogravure and Flexographic Printing Facilties

Purpose: This rule restricts volatile organic compound (VOC) emissions from rotogravure and flexographic printing facilities.

(1) Application

(A) This rule applies to all rotogravure and flexographic printing installations.

(B) This rule applies only to installations which emit equal to or greater than 100 tons per year of volatile organic compounds from rotogravure or flexographic printing operations.

(2) Emission Limits

(A) Flexographic Printing Processes:

1. No owner or operator shall use or permit the use of any flexographic printing operation unless such operation is equipped with a control method that will remove,

destroy or prevent the discharge into the ambient air of no less than 60 percent by weight of uncontrolled volatile organic compound emissions.

(B) Publication Rotogravure Printing Processes:

1. No owner or operator shall use or permit the use of any publication rotogravure printing operation unless such operation is equipped with a control method that will remove, destroy or prevent the discharge into the ambient air of no less than 75 percent by weight of uncontrolled volatile organic compound emissions.

(C) All Other Rotogravure Printing Processes:

1. No owner or operator shall use or permit the use of any other rotogravure printing operation unless such operation is equipped with a control method that will remove, destroy or prevent the discharge into the ambient air of no less than 65 percent by weight of uncontrolled volatile organic compound emissions.

(D) If low solvent technology is used as a means of control to achieve the reductions specified in (2)(A), (B), and (C), the following limits must be met:

1. For waterborne inks, the volatile portion of the ink must contain no more than 25% by volume of volatile organic compound.

2. For high solids inks, the ink must be 60% or greater nonvolatile material.

(3) Reporting and Recordkeeping

(A) The owner or operator of a rotogravure or flexographic printing installation covered by this rule must submit to the Director annually the composition and amount of ink used, amount of solvent used, amount of cleanup solvent discarded, and any other information necessary to determine compliance with this rule. Such information shall be submitted on a calendar year basis.

(B) For owners or operators utilizing add-on control technology the following parameters will be monitored:

1. exhaust gas temperature of all incinerators;

2. temperature rise across a catalytic incinerator bed;

3. VOC breakthrough on a carbon adsorption unit; and

4. any other monitoring device requested by the Director.

(C) Inventory records of all information detailed in Subsection (3)(A) and (3)(B) shall be kept for a period of not less than two years, and all such records shall be made available to the Director upon his request.

(D) For add on control technology, compliance with this rule shall be determined by the testing methods referenced in 10 CSR 10-6.030, (20)(A).

(4) Alternate Compliance Method

(A) Compliance with the emission limits of Section (2) may be demonstrated by the implementation of plant-wide emission compliance plan which utilizes a 7 day weighted average of emissions from a combination of affected source operations, provided that:

1. All source operations involved in the plan are subject to the emission limits of this rule.

2. All source operations are part of the same installation.

3. The total volatile organic compound emssions for each 7 day period do not exceed the sum of the allowable emissions determined from Paragraphs (2)(B)1., (2)(A)1. and (2)(C)1. for each source operation for the same period.

4. Equivalent emission reductions are accomplished in the time intervals allowed in Subsection (5)(B) as would be required for individual source operations.

5. The plan is approved by the Director.

(5) Compliance Dates

(A) The owner or operator of a rotogravure or flexographic printing installation subject to this rule must submit a final control plan to the Director by December 31, 1980 for his approval. This plan must include the following:

1. A detailed plan of process modifications.

2. A time schedule for compliance containing increments of progress and a final compliance date.

(B) Compliance with this rule shall be accomplished by any installation as expeditiously as practicable, but in no case shall final compliance extend beyond December 31, 1985.

10 CSR 10-5.350 Control of Emissions from Manufacture of Synthesized Pharmaceutical Products.

Purpose: This rule restricts volatile organic compound (VOC) emissions from the manufacture of synthesized pharmaceutical products.

(1) Application

(A) This rule applies to all synthesized pharmaceutical manufacturing installations.

(B) This rule applies only to source operations including reactors, distillation units, dryers, storage of volatile organic compounds, transfer of volatile organic compounds, extraction equipment, filters, crystallizers and centrifuges that emit 15 pounds per day or more of volatile organic compounds.

(C) This rule does not apply to sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance (such as research facilities, pilot plant operations, and laboratories) unless;

1. the operation of the source is an integral part of the production process; or

2. the emissions from the source exceed 363 kg (800 pounds) in any calendar month.

(2) Emission Limits

(A) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall control the volatile organic compound emissions from all reactors, distillation operations, crystallizers, centrifuges and vacuum dryers by the use of surface condensers or equivalent controls.

1. If surface condensers are used, the condenser outlet gas temperature must not exceed vapor pressures as measured at 20 degrees C:

A. -25 degrees C when condensing VOC of vapor pressure greater than 40.0 kPa (5.8 psi),

B. -15 degrees C when condensing VOC of vapor pressure greater than 20.0 kPa (2.9 psi),

C. 0 degrees C when condensing VOC of vapor pressure greater than 10.0 kPa (1.5 psi),

D. 10 degrees C when condensing VOC of vapor pressure greater than 7.0 kPa (1.0 psi), or

E. 25 degrees C when condensing VOC of vapor pressure greater than 3.50 kPa (0.5 psi),

2. If equivalent controls are used, the VOC emissions must be reduced by an amount equivalent to the reductions achieved in paragraph (2)(A)1.

(B) The owner or operator of a synthesized pharmaceutical manufacturing installation subject to this rule shall reduce the VOC emissions from all air dryers and production equipment exhaust systems;

1. by at least 90 percent if emissions are 150 kg/day (330 lb/day) or more of VOC; or

2. to 15.0 kg/day (33 lb/day) or less if emissions are less than 150 kg/day (330 lb/day) of VOC.

(C) The owner or operator of a synthesized pharmaceutical manufacturing installation subject to this rule shall:

1. provide a vapor recovery sysem or equivalent control that is at least 90.0 percent effective in reducing emissions from truck or railcar deliveries to storage tanks with capacities greater than 7,500 liters (2,000 gallons) that store VOC with vapor pressures greater than 28.0 kPa (4.1 psi) at 20 degrees C; and,

2. install pressure/vacuum conservation vents set at plus or minus 0.2 kPa on all storage tanks that store VOC with vapor pressures greater than 10.0 kPa (1.5 psi) at 20 degrees C, unless a more effective control system is used.

(D) The owner or operator of a synthesized pharmaceutical manufacturing installation subject to this rule shall enclose all centrifuges, rotary vacuum filters, and other filters having an exposed liquid surface, where the liquid contains VOC and exerts a total VOC vapor pressure of 3.50 kPa (0.5 psi) or more at 20 degrees C.

(E) The owner or operator of a synthesized pharmaceutical manufacturing installation subject to this rule shall install covers on all in-process tanks containing a volatile organic compound at any time. these covers must remain closed, unless production, sampling, maintenance, or inspection procedures require operator access.

(F) The owner or operator of a synthesized pharmaceutical manufacturing installation subject to this rule shall repair all leaks from which a liquid, containing VOC, can be observed running or dripping. The repair shall be completed the first time the equipment is off-line for a period of time long enough to complete the repair.

(3) Monitoring, Recordkeeping and Reporting

(A) Compliance with this rule shall be determined by the testing methods referenced in 10 CSR 10-6.030 (20) (A).

(B) For owners or operators utilizing add-on control technology the following parameters will be monitored:

1. exhaust gas temperature of all incinerators;
2. temperature rise across a catalytic incinerator bed;
3. VOC breakthrough on a carbon adsorption unit;
4. exit stream temperature on all condensers; and
5. any other monitoring device requested by the Director.

(C) Records of all information requested in Subsection 3(B) shall be kept for a period of not less than two years, and all such records shall be made available to the Director upon his request.

(4) Compliance Dates

(A) The owner or operator of a synthesized pharmaceutical manufacturing installation subject to this rule must submit a final control plan to the Director by December 31, 1980 for his approval. This plan must include the following:

1. A detailed plan of process modifications.
2. A time schedule for compliance containing increments of progress and final compliance date.

(B) Compliance with this rule shall be accomplished by any installation as expeditiously as practicable, but in no case shall final compliance extend beyond December 31, 1982.

CHAPTER 6 - AIR QUALITY STANDARDS, DEFINITIONS, SAMPLING AND REFERENCE METHODS AND AIR POLLUTION CONTROL REGULATIONS

10 CSR 10-6.010 Ambient Air Quality Standard

Pollutant	Method	Concentration	Remarks
1. Suspended particulates	As specified in 10 CSR 10-6.040(4)(B)	60 micrograms per cubic meter	Annual geometric mean
		150 micrograms per cubic meter	24-hour average not to be exceeded more than once per year
2. Sulfur dioxide	As specified in 10 CSR 10-6.040(4)(A)	0.03 ppm (80 micrograms per cubic meter)	Annual arithmetic mean
		0.14 ppm (365 micrograms per cubic meter)	24-hour average not to be exceeded more than once per year
		0.5 ppm (1300 micrograms per cubic meter)	3-hour average not to be exceded more than once per year
3. Carbon monoxide	As specified in 10 CSR 10-6.040(4)(C)	9 ppm (10,000 micrograms per cubic meter)	8-hour average not to be exceeded more than once per year
		35 ppm (40,000 micrograms per cubic meter)	1-hour average not to be exceeded more than once per year
4. Photochemical oxidants	As specified in 10 CSR 10-6.040(4)(D)	0.03 ppm (160 micrograms per cubic meter)	1-hour average not to be exceeded more than once per year

5. Nitrogen dioxide	As specified in 10 CSR 10-6.040(4)(F)	0.05 ppm (100 micrograms per cubic meter)	Annual arithmetic mean not to be exceeded
6. Hydrogen sulfide	As specified in 10 CSR 10-6.040(5)	0.05 ppm (70 micrograms per cubic meter)	1/2 hour average not to be exceeded over 2 times per year
		0.03 ppm (42 micrograms per cubic meter)	1/2-hour average not to be exceeded over 2 times in any 5 consecutive days.
7. Sulfuric acid	As specified in 10 CSR 10-6.040(6)	10 micrograms per cubic meter	24-hour average not to be exceeded more than once in any 90 consecutive days
		30 micrograms per cubic meter	1-hour average not to be exceeded more than once in any 2 consecutive days

10 CSR 10-6.020 Definitions. The Air Conservation Commission is changing the title of Chapter 6 to include sampling methods and regulations which apply statewide, amend paragraph (2)(M)2., and define new key words and expressions.

(1) Application

(A) This rule shall apply throughout the state of Missouri defining terms and expressions used in all Title 10, Division 10-Air Conservation Commission rules.

(2) Definitions

(A) All terms beginning with "A":

1. Air pollution - The presence in the ambient air of one or more air contaminants in quantities of characteristics and of a duration which directly and approximately cause or contribute to injury to human, plant, or animal life or health or to property or which unreasonably interfere with the enjoyment of life or use of property.

2. Approved source - A source of fuel which has been found by the department director, after such tests as he may require, to be in compliance with these regulations.

3. ASME - American Society of Mechanical Engineers, 345 East 47th Street, New York, New York.

4. ASTM - American Society of Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania.

5. Accumulator - The reservoir of a condensing unit receiving the condensate from the condenser.

6. Automobile and Light Duty Truck Surface Coating Operations - The application, flashoff, and curing of prime, primer-surfacer, topcoat and final repair coatings during the assembly of passenger cars and light duty trucks excluding the following operations:

   A. wheel coatings,
   B. miscellaneous anti-rust coatings,
   C. truck interior coatings,
   D. interior coatings,
   E. flexible coatings,
   F. sealers and adhesives,
   G. plastic parts coatings.

   Customizers, body shops, and other repainters are not part of this definition.

7. Asphalt prime coat - An application of low-viscosity liquid asphalt to an absorbent surface such as a previously untreated surface.

8. Asphalt seal coat - An application of a thin asphalt surface treatment used to waterproof and improve the texture of an absorbent surface or a non-absorbent surface such as asphalt or concrete.

9. Alternate site analysis - An analysis of alternative sites, sizes, production processes and environmental control techniques for such proposed source which demonstrates that benefits of the proposed installation significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification. "Growth Increments and Non-Attainment Areas for the State of Missouri", Jan. 1, 1980, identifies a growth increment, both annual and long term, for each non-attainment area. In order to assume consistency, at both levels of growth, and flexibility, in the case of modification of the growth increment, the benefits of a proposed installation could fluctuate in time in accordance with the depletion of the growth increment.

10. Agricultural incinerator - An incinerator which is located on a farm or ranch and which has a rated burning

capacity of less than 100 pounds per hour of Type IV waste as defined by the Incinerator Standards of the Incinerator Institute of America (11A-STDS 66).

11. Administrator - The Regional Administrator for Region VII, United States Environmental Protection Agency (EPA.

12. Ambient air increments - Limited increases of pollutant concentrations in ambient air over the baseline concentration.

14. Aerospace assembly and components - The fabricated part, assembly of parts, or completed unit of aircraft, helicopter, missile, or space vehicle, or associated equipment.

15. Air dried coating - Coatings which are dried by the use of air or forced warm at temperatures up to 90 degrees C (194 degrees F).

(B) All terms beginning with "B":

1. Baseline concentration - That ambient concentration level which exists at locations of anticipated maximum air quality impact or increment consumption within a baseline area at the time of the applicable baseline date, minus any contribution from installations and major modifications on which construction commenced on or after Jan. 6, 1975. The baseline concentration shall include contributions from:

   A. The actual emissions of other installations in existence on the applicable baseline date; and

   B. The potential emissions of installations and major modifications which commenced construction before January 6, 1975, but were not in operation by the applicable baseline date.

2. Baseline date - Date, established for a fixed monitoring location, of the first complete application after August 7, 1977 for a permit to construct and operate an installation which is subject to 10 CSR 10-6.060(3)(B).

3. Baseline area - The area of significant impact of an installation established by modeling and/or monitoring.

4. Best Available Control Technology (BACT) - An emission limitation (including a visible emission limit) based on the maximum degree of reduction for each pollutant which would be emitted from any proposed installation or major modification which the Director on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such installation or major modification through application of production

processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable emission control regulation. If the Director determines that technological or economic limitations on the application of measurement methodology to a particular class of source would make the imposition of an emission limitation infeasible, a design, equipment, work practice or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

(C) All terms beginning with "C":

1. Commenced - An owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a binding agreement or contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

2. Commercial vehicle - A motor vehicle designed or regularly used for carrying freight and merchandise, or more than eight passengers.

3. Condensate (hydrocarbons) - Hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and or pressure and remains liquid at standard conditions.

4. Construction - Fabrication, erection, or installation.

11. Cold cleaner - A type of degreaser which consists of a tank of organic solvent used for cleaning or degreasing metal parts at or near room temperature.

12. Conveyorized degreaser - A type of degreaser in which the parts are loaded continuously.

13. Condenser - Any heat transfer device used to liquefy vapors by removing their latent heats of vaporization including, but not limited to, shell and tube, coil, surface or contact condensers.

14. Coating applicator - An apparatus used to apply a surface coating.

15. Coating line - One or more apparatus or operations which

include a coating applicator, flash-off area, and oven wherein a surface coating is applied, dried, and/or cured.

16. Coil coating - The coating of any flat metal sheet or strip that comes in rolls or coils.

17. Commission - The Missouri Air Conservation Commission, established pursuant to 203.040, RSMo.

18. Crude oil - A naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen and/or oxygen derivatives of hydrocarbons which is a liquid at standard conditions.

19. Carbon adsorption system - A device containing adsorbent material (e.g., activated carbon, aluminum, silica gel); an inlet and outlet for exhaust gases; and a system to regenerate the saturated adsorbent. The carbon adsorption system must provide for the proper disposal or reuse of all VOC adsorbed.

20. Carbon bed breakthrough - A concentration of VOC in the carbon adsorption device exhaust that exceeds 10 percent by weight of the inlet VOC concentration.

21. Clear coat - A coating which lacks color and opacity or is transparent and uses the undercoat as a reflectant base or undertone color.

22. Custody transfer - The transfer of produced crude oil and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(D) All terms beginning with "D":

1. Delivery vessel - A tank truck, trailer, railroad tank car, or drums.

3. Degreasing - Solvent metal cleaning in which non-aqueous solvents are used to clean and remove soils from metal surfaces.

4. Director or Department Director - Director of the Department of Natural Resources.

5. Dry cleaning installation - An installation engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The installation includes but is not limited to any washer, dryer, filter and purification systems, waste disposal systems, holding tanks, pumps, and attendant piping and valves.

(E) All terms beginning with "E":

1. Existing - As applied to any equipment, machine, device, article, contrivance, or installation, shall mean in being installed or under construction in the Kansas City Metropolitan Area on September 25, 1968 (Buchanan County January 21, 1970) in the St. Souis Metropolitan Area on March 24, 1967 (Franklin County, January 18, 1972), in the Springfield Metropolitan Area on September 24, 1971, and in the Outstate Missouri Area on February 24, 1971, except that if any equipment, machine, device, article, contrivance or installation is subsequently altered, repaired, or rebuilt at a cost of 30% (thirty percent) or more of its replacement cost exclusive of routine maintenance, it shall no longer be existing but shall be considered new as defined in this regulation. The cost of installing equipment designed principally for the purpose of air pollution control is not to be considered a cost of altering, repairing, or rebuilding existing equipment for the purpose of this definition.

3. Emission - The release or discharge, whether directly or indirectly, into the atmosphere of one or more air contaminants.

4. Emulsified asphalt - An emulsion of asphalt cement and water that contains a small amount of an emulsifying agent, as specified in ASTM D 977-77 or ASTM D 2397-73.

6. Excess emissions - emissions which exceed requirements of any applicable emission control regulation.

7. External floating roof - A storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank wall.

8. Extreme environmental conditions - Exposure to any of; the weather all of the time, temperatures consistently above 95 degrees C, detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions.

9. Extreme performance coating - A coating designed for harsh exposure or extreme environmental conditions.

(F) All terms beginning with "F":

2. Fabric coating - The coating of a textile substrate with a knife or roller spreader to impart properties that are not intially present, such as strength, stability, water or acid repellency or appearance.

3. Freeboard height - Distance from the solvent (cold cleaner) or solvent vapor level (vapor degreaser) to the top edge of the solvent container.

4. Freeboard ratio - Freeboard height divided by the width of the degreaser.

5. Firebox - The chamber or compartment of a boiler or furnace in which materials are burned but does not means the combustion chamber of an incinerator.

6. Flashoff area - The space between the application area and the oven.

7. Final Repair - The final coatings applied to correct topcoat imperfections after the complete assembly of the automobile.

8. Fugitive emissions - Those emissions which do not pass through a stack, chimney, vent, or other functionally equivalent opening.

9. Flexographic printing - The application of words, designs and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

(G) All terms beginning with "G":

1. Gasoline - Petroleum liquid having a Reid vapor pressure of 4 pounds or greater.

3. Growth increment - The decreasing limit on new installation or major modification emissions of a non-attainment pollutant which is identified in "Growth Increments and Non-Attainment Areas for the State of Missouri", Jan. 1, 1980.

(H) All terms beginning with "H":

1. HHV - Higher Heating Value as determined by 10 CSR 10-6.010, section (2), (ASTM Annual Testing Standards: 1972, Part 19, D(2015-66) Standard Method for Determining Gross Heating Values of Solid Fuels.)

3. Hot Well - The reservoir of a condensing unit receiving the warm condensate from the condenser.

(I) All terms beginning with "I":

1. Incinerator - Any article, machine, equipment, contrivance, structure, or part of a structure used to burn refuse or to process refuse material by burning other than by open burning as defined herein.

4. Individual Source Monitoring - A system as specified in EPA document EPA-450/2-78-036 entitled "Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment", which utilizes a portable hydrocarbon monitor to measure levels of volatile hydrocarbons emitted from individual process equipment.

(K) All terms beginning with "K":

1. Kansas City Metropolitan Area - The geographical area comprised of Jackson County, Cass County, Clay County, Platte County, Ray County, and Buchanan County.

2. Knife coating - The application of a coating material to a substrate by means of drawing the substrate between a knife that spreads the coating evenly over the full width of the substrate.

(L) All terms beginning with "L":

1. Liquefied Cutback Asphalt cement which has been liquefied by blending with petroleum solvents (diluents).

2. Lowest achievable emission rate (LAER) - That rate of emissions which reflects (1) the most stringent emission limitation which in contained in any State Implementation Plan for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or (2) the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent. LAER shall not be less stringent than the New Source Performance Standard limit.

3. Liquid-mounted seal - A primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank.

4. Lower explosive limit (LEL) - The lower limit of flammability of a gas or vapor at ordinary ambient temperatures expressed in percent of the gas or vapor in air by volume.

(M) All terms beginning with "M":

1. Model year - The annual production period of new motor vehicles designated by the calendar year in which such period ends, provided that if the manufacturer does not so designate vehicles manufactured by him, the model year with respect to such vehicles shall mean the twelve month period beginning January 1 of the year specified herein.

2. Modification - Any physical change in, or change in method of operation of a source operation or attendant air pollution control equipment which would cause an increase in potential emissions of any air pollutant emitted by such source.

3. Motorcycle - A motor vehicle operated on two wheels.

4. Motor tricycle - A motor vehicle operated on three wheels, including a motorcycle with any conveyance, temporary or otherwise, requiring the use of a third wheel.

5. Motor vehicle - Any self-propelled vehicle.

6. Multiple chamber incinerator - Any incinerator consisting of three or more refractory lined combustion furnaces in series, physically separated by refractory walls interconnected by gas passage ports or ducts and employing adequate design parameters necessary for maximum combustion of the the material to be burned, the refractories having a Pyrometric Cone Equilavent of 31, tested according to the method described in the American Society for Testing and Materials, Method C-24-56, on other method approved by the department director.

7. Malfunction - A sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal and usual manner. Excess emissions caused by improper design shall not be deemed a malfunction.

8. Magnet wire coating - The process of applying a coating of electrically insulating varnish or enamel to aluminum or copper wire for use in electrical machinery.

9. Metal furniture coating - The surface coating of any furniture made of metal or any metal part which will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece.

10. Multiple fixed-point monitoring - A system for monitoring volatile organic compounds where stationary monitors are placed throughout the petroleum refinery which measure atmospheric concentrations of volatile organic compounds.

11. Major modification - Any physical change in or change in the method of operation of an installation or attendant air pollution control equipment, that would result in a significant net increase in potential emissions of any pollutant, or meets the definition of reconstruction.

    A. A physical change shall not include routine maintenance, repair and replacement.

    B. A change in the method of operation, unless previously limited by enforceable permit conditions, shall not include:

        (I) Use of an alternative fuel or raw material by reason of an order under sections 2(a) and (b) of the Energy Supply and Environmental Coordination

Act of 1974 (or any superseding legislation), a prohibition under the Power Plant and Industrial Fuel Use Act of 1978 (or any superseding legislation), or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(II) Use of an alternative fuel or raw material, if prior to January 6, 1975, the source was capable of accomodating such fuel or material;

(III) Use of an alternative fuel by reason of an order or rule under section 125 of the Clean Air Act;

(IV) Change in ownership of the installation; or

(V) Use of refuse derived fuel generated from municipal solid waste.

C. Changes in an installation will not result in a net increase if all of the following conditions are satisfied:

(I) All reductions and all increases must be for the same pollutant;

(II) The sum of all decreases must be greater than or equal to the sum of all increases;

(III) On balance the air quality of the affected area must not be adversely impacted.

D. In determining whether a net increase in emissions will occur, the following shall apply:

(I) The size of an increase or decrease is determined by the difference between the potential emissions of each source operation before and after the change.

(II) If potential emissions for a source operation were initially higher than allowable emissions under emission control regulations or permit conditions, then no credit may be taken for decreasing emissions down to allowable emission.

(III) The requirements of 40 CFR Part 51, Appendix S, sections IV.C.2. and 4., involving the amount of credit permissible for changing fuels and for replacing one hydrocarbon compound with another of lesser reactivity, shall apply.

12. Maskant - A coating applied directly to an aerospace component to protect those areas when etching other parts of the component.

(N) All terms beginning with "N":

1. New - As applied to any equipment, machine, device, article,

or contrivance or installation shall mean not 'existing' as defined herein.

2. New tepee burner - One not in existence as of Sept. 18, 1970.

3. Non-attainment area - The area whose boundaries are identified in "Growth Increments and Non-Attainment Areas for the State of Missouri", January 1, 1980.

(O) All terms beginning with "O":

1. Open burning - The burning of any material wherein air contaminants resulting from combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. For the purposes of this definition, a chamber shall be regarded as enclosed, when during the time combustion takes place, only such apertures, ducts, stacks, flues or chimneys as are necessary to provide combustion air and to permit the escape of exhaust gases are open.

2. Owner or operator - Any person who owns, leases, operates, controls or supervises an air contaminant source.

4. Open-Top vapor degreaser - A type of degreaser which consists of a tank where solvent is heated to its boiling point which creates a zone of solvent vapor contained by a set of cooling coils. Condensation of the hot solvent vapor cleans or degreases the colder metal parts.

10. Offset - The decrease in emissions from a source operation or installation to counteract the emissions from a new or modified source in the area at a ratio of not less than 1 to 1.3. The decrease must be the same pollutant and have the same environmental and health effects on the impacted area as the new emissions.

(P) All terms beginning with "P":

1. Particulate matter - Any material, except combined water, that exists in a finely divided form as a liquid or solid at standard conditions.

2. Petroleum liquid - Petroleum condensate or any finished or intermediate products manufactured in a petroleum refinery with the exception of Number 2 through Number 6 fuel oils as specified in ASTM D (396-69) gas turbine fuel oils Number 2-GT through 4-GT as specified in ASTM D 288-71, and diesel fuel oils Number 2-D and 4-D as specified in ASTM D 975-68.

3. Positive crankcase ventilation system - Any system or device which prevents the escape of crankcase emissions to the ambient air.

4. Process weight - The total weight of all materials introduced into a source operation, including solid fuels, but excluding liquids and gases used solely as fuels, and excluding air introduced for purposes of combustion.

6. Petroleum Refinery - Any facilty which produces gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation, cracking, extraction, or reforming of unfinished petroleum derivatives.

7. Plant-mix - A mixture produced in an asphalt mixing plant that consists of mineral aggregate uniformly coated with asphalt cement, cutback asphalt, or emulsified asphalt.

8. Primer - The first surface coating applied to the surface.

9. Primer-Surfacer - The surface coatings applied over the primer and beneath the topcoat.

10. Potential emissions - emission rates of any pollutant at maximum design capacity after the application of air pollution control equipment. Annual potential shall be based on the maximum annual rated capacity of the installation assuming continuous year round operation. Enforceable permit conditions on the type of materials combusted or processed, operating rates, or hours of operation may be used in determining the annual potential. Secondary emissions do not count in determining annual potential. Fugitive emissions also do not count, except with respect to the following installations and then only to the extent quantifiable:

    A. Coal cleaning plants
    B. Kraft pulp mills
    C. Portland cement plants
    D. Primary zinc smelters
    E. Iron and steel mill plants
    F. Primary aluminum ore reduction plants
    G. Primary copper smelters
    H. Municipal incinerators
    I. Hydrofluoric, sulfuric, or nitric acid plants
    J. Petroleum refineries
    K. Lime plants
    L. Phosphate rock processing plants
    M. Coke oven batteries
    N. Sulfur recovery plants
    O. Carbon black plants
    P. Primary lead smelters
    Q. Fuel conversion plants
    R. Sintering plants
    S. Secondary metal production plants
    T. Chemical process plants
    U. Fossil fuel-fired boilers

V. Petroleum storage and transfer units
W. Taconite ore processing plants
X. Glass fiber processing plants
Y. Charcoal production plants
Z. Fossil fuel-fired steam electric

11. Portable equipment - Any equipment that is designed and maintained to be movable, primarily for use in non-continuous operations.

12. Pollutant - An air contaminant listed in 10 CSR 10-6.060 (5)(B), Table 2, without regard to levels of emission or air quality impact.

13. Pilot plants - Installations which are of new type or design which will serve as a trial unit for experimentation or testing.

14. Pharmaceutical - Any compound or preparation included under the Standard Industrial Classification Codes 2833 (Medicinal Chemicals and Botanical Products), and 2834 (Pharmaceutical Preparations), excluding products formulated by fermentation, extraction from vegetable material or animal tissue, or formulation and packaging of the final product.

15. Production equipment exhaust system - A device for collecting and directing out of the work area fugitive emissions from reactor openings, centrifuge openings, and other vessel openings and equipment for the purpose of protecting workers from excessive exposure.

16. Publication rotogravure printing - Rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.

(Q) All terms beginning with "Q":

(R) All terms beginning with "R":

1. Refuse - Garbage, rubbish, trade wastes, leaves, salvageable material, agricultural wastes, or other wastes.

2. Reid vapor pressure - The absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323-58 (reapproved 1968).

3. Residual fuel oil - Fuel oil variously known as Bunker C, PS400 and Number 6 as defined in ASTM D396-487(1959).

4. Ringelmann Chart - "Ringelmann's Scale for Grading the Density of Smoke" as published in U.S. Bureau of Mines Information Circular 8333.

5. Roller spreader - The device used for the application of a coating material to a substrate by means of hard rubber or steel rolls.

6. Refinery Fuel Gas - Any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of natural gas and fuel gas.

7. Road-mix - An asphalt course produced by mixing mineral aggregate and cutback or emulsified asphalt at the road site by means of travel plants, motor graders, drags or special road-mixing equipment.

8. Reconstruction - Where the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost of a comparable entirely new source operation or installation; the use of an alternative fuel or raw material by reason of an order in effect under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act, or by reason of an order or rule under section 125 of the Clean Air Act, shall not be considered reconstruction.

9. Reactor - A vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions.

10. Roll printing - The application of words, designs and pictures to a substrate usually by means of a series of hard rubber or steel rolls each with only partial coverage.

11. Rotogravure printing - The application of words, designs, and pictures to a substrate by means of a roll printing technique which involves an intaglio or recessed image areas in the form of cells.

(S) All terms beginning with "S":

1. St. Louis Metropolitan Area - The geographical are comprised of St. Louis County, St. Charles County, Jefferson County, Franklin County, and the City of St. Louis.

2. Salvage operation - Any business, trade, industry or other activity conducted in whole or in part for the purpose of salvaging or reclaiming any product or material.

3. Smoke - Small gas-borne particles resulting from combustion, consisting of carbon, ash, and other material.

4. Source gas volume - The volume of gas arising from a process or other source operation.

5. Source operation - The last operation preceding the emission of an air contaminant, which operation: a. results in the separation of the air contaminant from the process materials

or in the conversion of the process materials into air contaminants as in the case of combustion fuel, and b. is not principally an air pollution abatement operation.

6. Springfield-Greene County Area - The geographical area contained within Green County.

7. Standard conditions - A gas temperature of 70 degrees Fahrenheit and a gas pressure of 14.7 pounds per square inch absolute.

8. Start-up - The setting into operation of any air pollution control equipment or process equipment, except the routine phasing in of process equipment.

9. Submerged fill pipe - Any fill pipe the discharge opening of which is entirely submerged when the liquid level is 6 inches above the bottom of the tank "Submerged fill pipe" when applied to a tank which loaded from the side is defined as any fill pipe the discharge opening of which is entirely submerged when the liquid level is 18 inches or twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank.

10. Shutdown - The cessation of operation of any air pollution control equipment or process equipment, except the routine phasing out of process equipment.

11. Solvent - Organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents.

12. Solvent metal cleaning - The process of cleaning soils from metal surfaces by cold cleaning or open-top vapor degreasing or conveyorized degreasing.

13. Staff Director - Director of the Air Pollution Control Program of the Department of Natural Resources.

14. Solvent volatility - Reid vapor pressure.

15. Significant - An emission level or ambient air quality impact which exceeds the emission rate or impact level established as "de minimus" from 10 CSR 10-6.060, Subsections (5)(B), Table 2 and (5)(G), Table 7.

16. Secondary emissions - Emissions which occur or would occur as a result of the construction or operation of an installation or major modification, but do not necessarily come from the installation or major modification itself. For purposes of this section, secondary emissions must be specific and well defined, must be quantifiable, and must impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions may include but are not limited to:

A. Emissions from, trucks, ships or trains coming to or from the stationary source or modification; and

B. Emissions from any offsite support source.

17. Synthesized pharmaceutical manufacturing - Manufacture of pharmaceutical products by chemical synthesis.

(T) All terms beginning with "T":

1. Trade waste - Solid, liquid or gaseous materials resulting from construction or the prosecution of any business, trade or industry, or any demolition operation including, but not limited to plastics, cardboard cartons, grease, oil, chemicals, or cinders.

2. True vapor pressure - The equilibrium partial pressure exerted by a petroleum liquid as determined in American Petroleum Institute Bulletin 2517 Evaporation Loss from Floating Road Tanks, 1962.

4. Topcoat - The surface coatings applied for the purpose of establishing the color and/or protective surface, including groundcoat and paint sealer materials.

(U) All terms beginning with "U":

1. Uncombined water - Visible condensed water which is not physically or chemically bound to any air contaminant.

2. Unit Turnaround - The procedure of shutting a refinery process unit down to do necessary maintenance and repair work and putting the unit back on stream.

3. Unit walk through monitoring - System for monitoring volatile organic hydrocarbons which utilizes a portable hydrocarbon monitor to measure ambient hydrocarbon levels in the areas of all process equipment.

(V) All terms beginning with "V":

1. Vapor recovery system - A vapor gathering system capable of collecting the hydrocarbon vapor and gases discharged and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to limit their emission to the atmosphere.

2. Vapor tight - When applied to a delivery vessel or vapor recovery system as one that sustains a pressure change of no more than 750 pascals (3 inc. of H20) in 5 min. when pressurized to a gauge pressure of 4,500 pascals (18 in. of H20) or evacuated to a gauge pressure of 1,500 pascals (6 in. of H20).

3. Vehicle - Any mechanical device on wheels, designed primar-

ily for use on streets, roads, or highways, except those propelled or drawn by human or animal power, or those used exclusively on fixed rails or tracks.

5. Vinyl coating - The application of a decorative or protective topcoat, or printing or vinyl coated fabric or vinyl sheet.

6. VOC - Volatile Organic Compounds - Any compound of carbon that has a vapor pressure greater than 0.1 millimeters of mercury at standard conditions. For the purposes of rules 10 CSR 10-2.240 and 10 CSR 10-2.250 VOC means any compound of carbon that has a vapor pressure greater than 1.5 pounds per square inch. The following compounds will be considered volatile organic compunds: methane, ethane, 1,1,1-trichloroethane (methyl chloroform), trichloro-trifluoroethane (Refrigerant 113), carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

7. Vacuum Producing System - Any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector device that takes suction from a pressure below atmospheric on a system containing volaile hydrocarbons.

8. Vapor-mounted seal - A primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

(W) All terms beginning with "W":

1. Wastewater (oil/water) Separator - Any device which constitutes a primary treatment step for separation of free oil from oily waste waters, such as API oil/water separator, etc., prior to further treatment of the waste water.

2. Waxy, heavy pour crude oil - A crude oil with a pour point of 50 degrees F or higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for Pour Point of Petroleum Oils."

(X) All terms beginning with "X":

(Y) All terms beginning with "Y":

(Z) All terms beginning with "Z":

10 CSR 10-6.030 Sampling Methods for Air Pollution Sources

(1) Samples and velocity traverses for source sampling shall be conducted as specified by 40 CFR, Part 60 Appendix A - Reference Methods, "Method 1 - Sample and Velocity Traverses for

Stationary Sources" as of August 18, 1977.

(2) The velocity of stack gases is to be determined by measuring velocity head using a Type "S" (Stauscheibe or reverse type) pitot tube as specified by 40 CFR, Part 60, Appendix A - Reference Methods "Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)" as of August 18, 1977.

(3) The carbon dioxide, excess air, and dry molecular weight contained in stack gases shall be determined specified in 40 CFR, Part 60, Appendix A - Reference Methods, "Method 3 - Gas Analysis for Carbon Dioxide, Excess Air, and Dry Molecular Weight" as of August 18, 1977.

(4) The moisture content in stack gases shall be determined as specified by 40 CFR, Part 60, Appendix A - Reference Methods, "Method 4 - Determination of Moisture in Stack Gases" as of August 18, 1977.

(5) The concentration of particulates in stack gases shall be determined as specified by 40 CFR, Part 60, Appendix A - Reference Methods, "Method 5 - Determination of Particulate Emissions from Stationary Sources" as of August 18, 1977.

(6) The sulfur dioxide emissions from air pollution sources shall be determined as specified by 40 CFR, Part 60, Appendix A - Reference Methods, "Method 6 - Determination of Sulfur Dioxide Emissions from Stationary Sources" as of August 18, 1977.

(7) The nitrogen oxide emissions from air pollution sources shall be determined as specified by 40 CFR, Part 60, Appendix A - Reference Methods, "Method 7 - Determination of Nitrogen Oxide Emissions from Stationary Sources" as of August 18, 1977.

(8) The sulfuric acid mist and sulfur dioxide emissions from air pollution sources shall be determined as specified by 40 CFR, Part 60, Appendix A - Reference Methods, "Method 8 - Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources" as of August 18, 1977.

(9) The visible emissions from air pollution sources shall be evaluated as specified by 40 CFR, Part 60, Appendix A - Reference Methods, "Method 9 - Visual Determination of the Opacity of Emissions from Stationary Sources" as of July 1, 1976.

(10) The carbon monoxide emissions from air pollution sources shall be determined as specified by 40 CFR, Part 60, Appendix A - Reference Methods, "Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources" as of July 1, 1976.

(11) The hydrogen sulfide emssions from air pollution sources shall be determined as specified by 40 CFR. Part 60. Appendix A - Reference Methods, "Method 11 - Determination of Hydrogen

Sulfide Emissions from Stationary Sources" as of July 1, 1976.

(20) Volatile organic compound emissions from air pollution sources shall be determined:

(A) by test methods consistent with EPA Guideline Series Document, "Measurement of Volatile Organic Compounds", EPA-450/2-78-041.

(B) by test methods consistent with EPA Guideline Series Document, "Control of Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems", EPA-450/2-78-051.
1. Appendix A.
2. Appendix B.

10 CSR 10-6.040 Reference Methods

(1) The percent sulfur in solid fuels shall be determined as specified by ASTM Method D-3177-75 "Total Sulfur in the Analysis Sample of Coal and Coke".

(2) The heat content or higher heating value (HHV) of solid fuels shall be determined by use of the Adiabetic Bomb Calorimeter as specified by ASTM Method D-2015-66 "Gross Calorific Value of Solid Fuel by the Adiabetic Bomb Calorimeter".

(3) The heat content or higher heating value (HHV) of liquid hydrocarbons shall be determined as specified by ASTM Method D-240-64 "Heat of Combustion of Liquid Hydrocarbon by Bomb Calorimeter".

(4) The methods for determining the concentrations of the following air contaminants in the ambient air shall be as specified in 40 CFR, Part 50, Appendices A through F, or equivalent methods as specified in 40 CFR, Part 53.

(A) The concentration of sulfur dioxide shall be determined as specified in 40 CFR Part 50, Appendix A - "Reference Method for the Determination of Sulfur Dioxide in the Atmosphere (Pararosaniline Method)" as of July 1, 1976, or an equivalent method as approved by 40 CFR, Part 53, as of July 1, 1976.

(B) The concentration of total suspended particulate shall be determined as specified in 40 CFR, Part 50, Appendix B - "Reference Method for the Determination of Suspended Particulates in the Atmosphere (High Volume Method)", as of July 1, 1976.

(C) The concentration of carbon monoxide in the ambient air shall be determined as specified in 40 CFR, Part 50, Appendix C - "Measurement Principle and Calibration Procedure for the Continuous Measurement of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Spectrometry)" as of July 1, 1976 or equivalent methods as approved by 40 CFR, Part 53, as of July 1, 1976.

(D) The concentration of photochemical oxidants in the ambient air shall be determined as specified in 40 CFR, Part 50, Apendix D - "Measurement Principle and Calibration procedure for the Measurement of Photochemical Oxidants Corrected for Interferences due to Nitrogen Oxides and Sulfur Dioxide" as of July 1, 1976, or equivalent methods as approved by 40 CFR, Part 53 as of July 1, 1976.

(E) The concentration of hydrocarbons in the ambient air shall be determined as specified in 40 CFR, Part 50, Appendix E - "Reference Method for the Determination of Hydrocarbons Corrected for Methane" as of July 1, 1976, or equivalent method as approved in 40 CFR, Part 53 as of July 1, 1976.

(F) The concentration of nitrogen dioxide in the ambient air shall be determined as specified in Federal Register, Volume 41, Number 232 - Wednesday, December 1, 1976, Appendix F - Measurement Principle and Calibration Procedure for the Measurement of Nitrogen Dioxide in the Atmosphere (Gas Phase Chemiluminescence), or equivalent methods as approved by 40 CFR, Part 53, as of July 1, 1976.

(5) The concentration of hydrogen sulfide (HS) in the ambient air shall be determined by the coulermetric titration of hydrogen sulfide with bromine as specified by the Philips Scientific and Analytical Equipment Manufacturer's "Provisional Manual - H2S Conversion Set", PW9701/00.

(6) The concentration of sulfuric acid mist and sulfur trioxide in the ambient air shall be determined by sampling for the concentration of total sulfur in the ambient air and subtracting the concentrations of sulfur dioxide and hydrogen sulfide.

(A) The concentration of total sulfur shall be determined as specified in section (4) of this rule by sampling for sulfur dioxide without removing other sulfur compound interferences.

(B) The concentration of sulfur dioxide shall be determined as specified by section (4) of this rule.

(C) The concentration of hydrogen sulfide shall be determined as specified by section (5) of this rule.

(8) The amount of solvent present in earth filters and distillation wastes shall be determined as specified by ASTM Method D322-67, "Standard Test Method for Gasoline Dilutent in Used Gasoline Engine Oils by Distillation".

10 CSR 10-6.050 START-UP, SHUTDOWN, AND MALFUNCTION CONDITIONS

This rule, applicable to all installations in the State of Missouri, provides the owner or operator of an installation the opportunity to submit data regarding conditions which resulted in excess emissions. These submittals will be used by the director to determine whether the excess emissions were due to a start-up, shutdown or malfunction condition. Such determinations will be the basis for further enforcement action.

A. Upon receipt of a notice of excess emissions issued by the Missouri Department of Natural Resources or an agency holding a certificate of authority under Section 203.140, RSMo., the source to which the notice is issued may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. Based upon any information submitted by the source operator, and any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up, or shutdown, and whether the nature, extent and duration of the excess emissions warrant enforcement action under Sections 203.080 or 203.151, RSMo. In determining whether enforcement action is warranted, the director or commission shall consider the following factors:

   1. Whether the excess emissions during start-up, shutdown or malfunction, occurred as a result of safety, technological or operating constraints of the control equipment, process equipment, or process.

   2. Whether the air pollution control equipment, process equipment, or processes were, at all times, maintained and operated to the maximum extent practical, in a manner consistent with good practice for minimizing emissions.

   3. Whether repairs were made as expeditiously as practicable when the operator knew or should have known when excess emissions were occurring.

   4. Whether the amount and duration of the excess emissions were limited to the maximum extent practical during periods of such emissions.

   5. Whether all practical steps were taken to limit the impact of the excess emissions on the ambient air quality.

B. The information provided by the source operator under subsection (1) (A) shall include, at a minimum, the following:

   1. Name and location of installation;

   2. Name and telephone number of person responsible for the installation;

3. The identity of the equipment causing the excess emissions;

4. The time and duration of the period of excess emissions;

5. The cause of the excess emissions;

6. The type of air contaminant involved;

7. A best estimate of the magnitude of the excess emissions expressed in the units of the applicable emission control regulation and the operating data and calculations used in estimating the magnitude.

8. The measures taken to mitigate the extent and duration of the excess emissions;

9. The measures taken to remedy the situation which caused the excess emissions and the measures taken or planned to prevent the recurrence of such situations.

C. The information specified in subsection (1) (B) shall be submitted to the director not later than 15 days after receipt of the notice of excess emissions.

D. Nothing in this regulation shall be construed to limit the authority of the director or the commission to take appropriate action under Sections 203.080, 203.090 and 203.151, RSMo., to enforce the provisions of the Air Conservation Law and the regulations promulgated thereunder.

Title 10 - DEPARTMENT OF NATURAL RESOURCES*
Division 10 - Air Conservation Commission
Chapter 6 - Air Quality Standards, Definitions,
Sampling and Reference Methods, and Air
Pollution Control Regulations for the State
of Missouri

10 CSR 10-6.060 Permits Required. The Air Conservation Commission is changing the title of Chapter 6 to include Sampling Methods and Regulations which apply statewide.

PURPOSE: This rule fixes classes of sources which are required to obtain permits to construct and operate. It establishes requirements to be met prior to construction or modification of any of these sources. This rule also establishes permit fees and public notice requirements for certain sources.

Editor's Note: The secretary of state has determined that the publication of the referenced material in this rule in its entirety would be unduly cumbersome or expensive. The entire text of the referenced material has been filed with the secretary of state and is available at the Air Pollution Control Program offices at a cost not exceeding the cost of reproduction.

(1) Applicability

(A) This rule shall apply to all source operations and installations, throughout the State of Missouri, which are constructed or modified after the effective date of this rule.

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* The Prevention of Significant Deterioration provisions of this rule have not been approved.

(B) Portable equipment including, but not limited to, rock crushers, asphaltic concrete plants, and concrete batching plants are exempt from the requirements of this rule, provided that the following requirements are met:

1. The equipment was permitted previously, and that permit is still valid;

2. Each new location is reported to the Director as soon as possible, but in no case later than fourteen (14) days prior to ground breaking or initial equipment erection; and

3. The equipment shall be operated and maintained in a manner identical to that specified in the currently valid permit.

(C) The following list of source operation categories are exempt from the requirements of this rule:

1. Existing and previously permitted installations which change in ownership, provided that no modification takes place and the Director is notified of the change within a reasonable time, prior to the change;

2. Source operations which use gas or oil of grade No. 2 or lighter for space heating or air conditioning;

3. Source operations which are used in a private dwelling;

4. Source operations which have a heat input as specified by the manufacturer or designer of less than one million BTU's per hour;

5. Mobile internal combustion engines;

6. Construction of a building unless such building is a part of an installation which would require a permit under this rule.

7. Agricultural incinerators;

(D) Temporary sources, which will operate within the State of Missouri for less than one year, and pilot plants may be exempted from any of the requirements of this rule by the Director provided that these exemptions are requested in writing prior to the start of construction. These exemptions shall be granted only when ambient air quality standards are not threatened, there will be no significant impact on any Class I area, and the imposition of such requirements would be unreasonable.

(2) General Requirements

(A) All source classes as defined by subsection (5)(A), Table 1 must meet the following:

1. Any Class A source or any modification other than a major modification within class below the de minimus levels of subsection (5)(B), Table 2 shall be exempt from further requirements of this rule, provided that the owner or operator of the source applies for and the Director issues a De Minimus Permit for that installation. This De Minimus Permit shall be issued and enforced only if all of the following conditions are met:

A. The Director is notified, in writing, of the proposed construction prior to the commencement of construction;

B. Information is submitted to the Director which is sufficient for him to verify that no applicable emission control regulations should be violated and that the annual emission rate of the installation or modification is below the rates established by subsection (5)(B), Table 2.

C. The installation or modification continues to emit, on an annual basis, below the emission rates established by subsection (5)(B), Table 2. Any installation or modification having a De Minimus Permit under this paragraph shall be in violation of this rule if it emits above the rates of subsection (5)(B), Table 2, until such installation is issued a permit under the other requirements of this rule.

2. No owner or operator shall commence construction or major modification of any Class B, C, D, or E source after the effective date of this rule, or begin operation after such construction or major modification without first obtaining a permit from the Director.

3. No permit shall be issued if it is determined that the proposed source operation or installation will violate any of the provisions of this rule, will interfere with the attainment or maintenance of ambient air quality standards, or violate any applicable emission control regulations, or the Air Conservation Law.

4. Procedure

A. Each application shall be submitted on forms supplied by the Director. These forms shall consist of an Application for Authority to Construct and an Emissions Inventory Questionnaire, both forms to be completed such that all information necessary for processing the permit is supplied.

B. Each application shall be accompanied by site information, plans, descriptions, specifications and drawings showing the design of the source, the nature and amount of emissions of each pollutant, and the manner in which it will be operated and controlled.

C. Any additional information, plans, specifications, evidence, documentation, modeling or monitoring data that the Director may require to complete his review under this rule shall be furnished on request.

D. Within 30 days after receipt of an application for permit, or any addition to such an application, the Director shall advise the applicant of any deficiency in the application or in the information submitted and the amount of the permit fee. In the event of such a deficiency, the date of receipt of the application shall be, for the purposes of the application review, the date on which the Director received all required information. However, if the Director fails to notify the applicant, within 30 days after receipt of his application, that the application is incomplete and why it is considered incomplete, then the date of receipt shall be the date on which the application was received by the Director.

E. Due to the complexity of the review procedure required by the Federal Clean Air Act, the sixty (60) day time limit specified in 203.120, RSMo, is insufficient to allow complete reviews of permit applications. For this reason, each applicant for a permit pursuant to this rule, shall submit with his application a waiver of this sixty (60) day time limit. A statement to this effect will be included on the form entitled "Application for Authority To Construct", and this must be agreed to and signed by the applicant, or his permit will be automatically denied, in order to prevent the permit from being granted by default. In order to protect the applicant from unnecessarily lenghty review times, the time limits set forth in subsection (5)(E), Table 5 of this rule shall be followed by the Director in reviewing all permit applications.

5. Source operations or installations required to obtain permits under this rule shall submit fees for the processing of their applications, the amount of the fee being determined from subsection (5)(D), Table 4. Failure to submit the requisite fee within the time period specified in subsection (5)(E), Table 5, shall be grounds for denial of the permit.

6. Upon receipt of a complete application and the required fee, the Director shall proceed with an application review and after any public notice, comment and hearing required by this rule, make a final determination as to whether the permit should be approved, approved with conditions, or disapproved.

7. After making a final determination whether the permit should be approved, approved with conditions, or disapproved, the Director shall notify the applicant in writing of the final determination.

8. The Director may impose such conditions in a permit as may be necessary to accomplish the purposes of this rule and the Air Conservation Law, and are no less stringent than any applicable emission control regulations. Nothing in this rule shall be deemed to limit the power of the Director in this regard. Such conditions may include, but are not limited to, the following:

A. Sampling ports of a suitable size, number and location;

B. Safe access to each port;

C. Instrumentation to monitor and record emission data;

D. Other sampling and testing facilities;

E. Operating constraints to limit the maximum level of emissions;

F. Emission control device efficiency specifications to limit the maximum level of emissions;

G. Maximum level of emissions;

H. Emission testing as necessary after start-up, to be conducted by the owner or operator;

I. Data reporting.

9. Stack Heights and Dispersion Techniques

A. The degree of emission limitation required for control of any air pollutant under this rule shall not be affected in any manner by -

(I) So much of the stack height of any source as exceeds good engineering practice, or

(II) Any other dispersion technique.

B. Subparagraph (2)(A)9.A. of this rule shall not apply with respect to stack heights in existence before December 31, 1970, or to dispersion techniques implemented before then.

10. Any owner or operator who constructs, modifies or operates an installation not in accordance with the application submitted, including any terms and conditions made a part of such permit, or any owner or operator of an installation who commences construction, modification, or operation after the effective date of this rule without meeting the requirements of this rule, is in violation of this rule.

11. A permit shall be revoked if construction or modification work is not begun within two (2) years from the date of issuance, or if work is suspended for one (1) year.

12. Any owner or operator subject to the provisions of this rule shall furnish the Director written notification as follows:

A. A notification of the anticipated date of initial start-up of the source operation not more than 60 days or less than 30 days prior to such date.

B. A notification of the actual date of initial start-up of a source operation within 15 days after such date.

13. Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the Air Conservation Law and regulations thereunder and any other requirements under local, State or Federal law.

(B) Class B sources of VOC, located in ozone non-attainment areas must show either:

1. That they do not exceed the growth increment, or;

2. That they have obtained sufficient offset, through binding agreements, for the non-attainment pollutant, prior to startup of the installation.

(3) Additional Review Requirements for Class C, D, and E sources.

(A) Class C sources - A permit for construction of a Class C source, modification of any source operation within a Class C source which would result in an increase in potential emissions of the non-attainment pollutant above the emission rates established in subsection (5)(B), Table 2, or major modification of any installation that is a Class C source or which would cause it to become a Class C source, shall not be issued unless the following requirements, in addition to section (2), are met:

1. The applicant must supply ambient air quality modeling data for the non-attainment pollutants for which it is a Class C source to determine the air quality impact of the installation, unless there is no model available. The modeling techniques to be used are as specified in the Environmental Protection Agency's (EPA) "Guideline on Air Quality Models," OAQPS No. 1.2-080 or another model which the Director deems accurate.

2. The applicant must provide for the installation and operation of control equipment or processes, including the documentation, supporting a lowest achievable emission rate (LAER) determination by the Director, for the pollutants for which it is a Class C source.

3. The applicant must provide documentation establishing that all sources owned or operated by the applicant are in compliance with all emission control requlation, of the Commission.

4. Applicant must show either:

A. That they do not exceed the growth increment, or;

B. That they have obtained sufficient offset, through binding agreements, for the non-attainment pollutant, prior to startup of the installation.

5. For a Class C source, that would have been a Class D source but for the fact that it is located in a non-attainment area, that will significantly impact, as defined by subsection (5)(G), Table 7, a Class I area or an area which is not non-attainment in a state other than Missouri, the source must meet the requirements of subsection (3)(B) as well as this subsection.

6. For new sources obtaining permits by applying offsets that exceed the requirements of subparagraph (3)(A)4.B., the Director shall provide for the banking of the excess emission reduction. Only intrapollutant emission offsets will be acceptable (e.g., hydrocarbon increases may not be offset against SO_2 reductions). These emission reductions may be "banked" (i.e., saved to provide offsets for an installation seeking a permit in the future) for use under this paragraph, provided supporting documentation is received and agreed to by the Director. Likewise, the Director shall allow the owner of an existing source that reduces its own emissions to bank any resulting reductions beyond those required by emission control regulations for use under this paragraph, even if none of the reductions are applied immediately to a new source permit. These banked reductions are to be considered owned by the owners of the source which caused the creation of the reductions. These banked reductions can be used by the source, or can be sold to other sources. The Director may not approve the construction of a source using banked reductions if such use would interfere with the nonattainment control strategy or if such use would violate any other condition set forth for use of offsets. To preserve banked reductions, the Director shall devise a reduction tracking system.

7. Applicants for a source of volatile organic compounds (VOC) or carbon monoxide must provide an alternate site analysis, if located in an area for which an extension under § 172(a)(2) of the Clean Air Act has been applied for.

(B) Class D Sources, and Class C Sources described in paragraph (3)(A)5, must meet the requirements of Section (2), plus the following:

1. Control Technology Review.

A. An installation to which this subsection applies shall apply best available control technology for each pollutant that it would emit in a significant amount.

B. In the case of a major modification, the requirement for best available control technology shall apply only to each new or modified source operation.

C. For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time prior to commencement of construction of each independent phase of construction.

2. Innovative Control Technology.

A. An owner or operator of an installation to which this subsection applies may employ a system of innovative control technology, if:

(I) The proposed control system has not been demonstrated to, and will not, cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation, function, or malfunction;

(II) The owner or operator agrees to achieve a level of continuous emission reduction equivalent to that which would have been required under subparagraph (3)(B)1.A. by a reasonable date specified by the Director, taking into consideration the technical and economic feasability.

(III) The proposed construction would meet all requirements under this subsection based on the emission rate that the installation, employing the system of innovative control technology, would meet on the date specified by the Director.

(IV) The proposed construction would not cause or contribute to the violation of applicable national ambient air quality standards before the date specified by the Director.

(V) All other applicable requirements including those for public participation have been met.

B. Any approval to employ a system of innovative control technology may be withheld or revoked by the Director, if;

(I) The proposed system fails or will fail by the specified date to achieve the required continuous emission reduction rate, or

(II) The proposed system, before the specified date contributes or will contribute to an unreasonable risk to public health, welfare, or safety in its operation, function or malfunction.

C. If an installation to which this subsection applies fails to meet the required level of continuous emission reduction within the specified time period or the approval is revoked in accordance with subparagraph (3)(B)2.B., the owner or operator may request the Director to grant an extension of the requirements of this paragraph for such minimum period as may be necessary to comply with the requirement in paragraph (3)(B)1. Such period shall not extend beyond the date three years after termination of the time period specified in subparagraph (3)(B)2.A.

3. Exemptions from Impact Analyses

A. The requirements of paragraphs 4, 5, 6, 7 and 8 of this subsection shall not apply to an installation to which this subsection applies, with respect to a particular pollutant, if:

(I) The increase in potential emissions of that pollutant from the installation would impact no Class I area and no area where an applicable increment is known to be violated; and

(II) The emissions of the pollutant are of a temporary nature including but not limited to those from a pilot plant, a portable installation, consturction, or exploration.

B. The requirements of paragraphs 4, 5, 6, 7 and 8 of this subsection shall not apply with respect to sulfur dioxide or particulate matter from a major modification of an installation to which this subsection applies which was in existence on August 7, 1977, if:

(I) Any increase in potential emissions of either of those pollutants after the application of best available control technology would impact no Class I area; and

(II) Any such increase would cause or contribute to no exceedance of any national ambient air quality standard; and

(III) Any increase in allowable emissions of any air pollutant after the application of best available control technology would be less than 50 tons per year.

C. The requirements of paragraphs 4, 5, 6, 7 and 8 of this subsection shall not apply to an installation to which this subsection applies with respect to a particular pollutant, if:

(I) The increase or net increase in potential emissions would significantly impact no Class I area and;

(II) The increase or net increase in potential emissions is not significant or would cause no significant air quality impact; and

(III) The increase or net increase in potential emissions would be less than 100 tons per year for Class D sources.

D. Significant Impact.

(I) New Class D sources which would emit pollutants in excess of the emission levels of subsection (5)(B), Table 2 but not equal to or greater than the levels which would classify it as a Class D source for that pollutant, would be exempt from the requirements of paragraphs 4, 5, 6, 7, and 8 of this subsection, provided the ambient air quality impact is less than the air quality impact of subsection (5)(G), Table 7 for each pollutant to which this subparagraph applies. The ambient air quality impact may be determined using either of the following methods:

(a) The screening technique set forth in "Guidelines for Air Quality Maintenance Planning and Analysis" Vol. III (Revised); "Procedures for Evaluating Air Quality Impact of New Stationary Sources" (October 1977, U.S. EPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711); and

(b) A more sophisticated modeling technique as indicated in paragraph (3)(B)9.

4. Air Quality Review.

A. The owner or operator of the installation to which this subsection applies shall provide modeling data to demonstrate that potential emission increases from the installation, in conjunction with all other applicable emissions increases or reductions, since the baseline date would not cause or contribute to ambient air concentrations in excess of any national ambient air quality standard; or any applicable maximum allowable increase over the baseline concentration in any area, as listed in subsection (5)(F), Table 6. However, under no circumstances shall the concentration of a pollutant be allowed to exceed the concentration permitted under the national secondary ambient air quality standard, or the concentration permitted under the national primary ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.

B. The applicant must show that it has obtained emission reductions equal to and of a comparable air quality impact, for the non-attainment pollutant, if it significantly impacts a non-attainment area.

5. Pre-Application Monitoring

A. Any application for a permit for an installation to which this subsection applies shall contain an analysis of ambient air quality or ambient concentrations in the area the installation would significantly impact for each pollutant, specified in Subsection (5)(B), Table 2, which the installation would emit in significant amounts.

B. As necessary to determine whether emissions from the installation to which this subsection applies would cause or contribute to ambient air concentrations in excess of any maximum allowable increase or national ambient air quality standard in any area, the analysis required under this paragraph shall include continuous air quality monitoring data for any pollutant, emitted by the installation, for which a national ambient air quality standard exists, except non-methane hydrocarbons.

C. The continuous air monitoring data required in this paragraph shall relate to, and shall have been gathered over, the year preceding receipt of the complete application, unless the Director determines that a complete and adequate analysis may be accomplished in a shorter period.

D. If the owner or operator of an installation, to which this subsection applies, emitting volatile organic compounds, satisfies all conditions of 40 CFR part 51, Appendix S, Section IV.4, they shall provide post-construction monitoring data as specified under paragraph 6 of this subsection.

6. Post-Construction Monitoring.

A. The owner or operator of an installation to which this subsection applies shall, after construction of the installation or major modification, conduct such ambient monitoring as the Director determines may be necessary to determine the effect emissions from the installation or major modification may have, or are having on air quality in any area.

7. Operation of Monitoring Stations

A. The owner or operator shall meet the requirements of Appendix B to 40 CFR part 58 during the operation of monitoring stations for the purposes of paragraphs 5 or 6 of this subsection,

(I) No later than July 1, 1980 for existing stations.

(II) For new stations, at the time the station is put into operation.

8. Additional Impact Analyses.

A. The owner or operator shall provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the installation or major modification and general commercial, residential, industrial and other growth associated with the installation or major modification. The owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

B. The owner or operator shall provide an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial and other growth associated with the installation or major modification.

9. Air Quality Models.

A. All estimates and analyses of ambient concentrations required under this subsection shall be based on the applicable air quality models, data bases, and other requirements specified in the "Guideline on Air Quality Models" (OAQPS 1.2-080, U.S. Environmental Protection Agency).

B. Where an air quality impact model specified in the "Guideline on Air Quality Models" is inappropriate, the model may be modified or another model substituted. Written approval of the Director must be obtained for any modification or substitution. Methods like those outlined in the "Workbook for the Comparison of Air Quality Models" (U.S. Environmental Protection Agency Office of Air Quality Planning and Standards, Research Triangel Park, N.C. 27711, May, 1978) should be used to determine the comparability of air quality models.

C. Where the "Guideline on Air Quality Models" does not address a situation requiring modeling, the Director may approve the use of a model which he deems accurate for modeling that situation.

10. Preconstruction Notice.

A. The owner or operator who has obtained a permit under this subsection shall notify the Director in writing of the date on which site construction will begin at least 90 days before it begins.

11. Notice to EPA.

A. The Director shall transmit to the Administrator a copy of each permit application under this subsection and provide notice to the Administrator of every action related to the consideration of such permit.

12. Increment Tracking

A. The Director will track air quality increment consumption at the fixed baseline locations.

B. Available increment will be allocated on a first come, first serve basis. The marked received date of a complete application will be used by the Director to determine which applicant is entitled to prior allocation of increments.

C. If an installation wishes to locate in an area with no increment available, it must obtain emission reductions equal to and of a comparable air quality impact of its new or increased emissions.

D. If an installation requires more increment than an area has available, it must obtain emission reductions equal to and of a comparable air quality impact of the emissions causing concentrations above the available increment.

E. At increments of 5 years from the baseline date, the Director shall determine for location(s) at which complete air monitoring data exists (using culling criteria for NAAQS) the actual air quality increment available or consumed.

F. Exclusions from Increment Consumption. Upon written request of the installation, made after notice and opportunity for at least one public hearing to be held in accordance with the procedures established in subsection (6)(A), Appendix A, the Director shall exclude the following concentrations in determining compliance with a maximum allowable increase:

(I) Concentrations attributable to the increase in emissions from installations which have converted from the use of petroleum products, natural gas, or both by reason of an order in effect under Sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) over the emissions from such sources before the effective date of such an order;

(II) Concentrations attributable to the increase in emissions from installations which have converted from using natural gas by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act over the emissions from such sources before the effective date of such plan;

(III) Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities;

(IV) However, no exclusion of such concentrations shall apply more than five years after the effective date of the order to which part (3)(B) 12.F.(I) refers or the plan to which part (3)(B)12.F.(II) refers, whichever is applicable. If both such order and plan are applicable, no such exclusion shall apply more than five years after tne later of such effective dates.

(C) Class E sources as defined by subsection (5)(A), Table 1 must meet the requirements of section (2), plus the following:

1. The applicant must supply ambient air quality modeling data for all pollutants for which the source is defined as a Class E Source, to determine the air quality impact of the source, unless there is no model available. The modeling techniques to be used are as specified in the EPA's "Guideline on Air Quality Models", OAQPS No. 1.2-080 or another model which the Director deems accurate.

2. The applicant must show that it has obtained emission reductions equal to and of a comparable air quality impact, for the non-attainment pollutant, if it significantly impacts a non-attainment area.

(D) Public Participation

1. The Director shall follow the procedures for public participation as specified in subsection (6)(A), Appendix A.

(4) Modified Permits and Miscellaneous Fees

(A) Modified Permits

1. No changes in the proposed installation or modification may be made which would change any information in a permit application, except in accordance with this section.

2. If the applicant or permittee desires to make such a change he shall request the permit application be amended.

3. If the requested change will result in increased emissions, air quality impact, or increment consumption, a new permit application shall be submitted and a permit review shall proceed under this rule.

4. If the requested change will not result in increased emissions, air quality impact, or increment consumption, the original permit application shall be amended and the permit shall be issued or modified pursuant to the amended application.

(B) Modified Permit Fees

1. If the permit application is amended pursuant to paragraph (4)(A)4., no additional permit review fee shall be assessed.

2. If a new application and permit review is required pursuant to paragraph (4)(A)3., the applicant shall submit with the new application a permit fee as determined from subsection (5)(D), Table 4, for each source operation for which changes from the original application are requested.

(C) Publication and Hearing Fees

1. In addition to permit fees as determined from subsection (5)(D), Table the applicant shall pay for any publication of notice required by this rule, and shall pay for the original and one copy of the transcript, to be filed with the Director, of any hearing required under this rule.

2. Not withstanding the deadline for final permit determination by the Director under this rule, no permit shall be issued until all publication and transcript costs have been paid.

(5) Tables

(A) Table 1   SOURCE CLASS DESIGNATIONS

Source Type	Source Class	Description
Minor	A	The sum of potential emissions and fugitive emissions of any pollutant from the installation is less than or equal to the level listed as "de minimis" for that pollutant in Subsection (5)(B), Table 2.
	B	The sum of potential emissions and fugitive emissions of any pollutant from the installation is greater than the level listed as "de minimis" for that pollutant in Subsection (5)(B), Table 2, and potential emissions, excluding fugitives, of that pollutant are less than 100 tons per year.
Major	C	Potential emissions of any pollutant from the installation are 100 tons per year or more, and the installation is located within a nonattainment area for that pollutant.
	D	The installation is a "named installation" in Subsection (5)(C), Table 3, and has potential emissions of any pollutant of 100 tons per year or more, or the installation has potential emissions of any pollutant of 250 tons per year or more. In addition, the installation is not located in a nonattainment area for that pollutant.

(5) Tables (continued)

(A) Table 1 (continued) SOURCE CLASS DESIGNATIONS

Source Type	Source Class	Description
Major	E	The installation is not a "named installation" in Subsection (5)(C), Table 3 and has potential emissions of any pollutant of less than 250 tons per year, but greater than or equal to 100 tons per year. In addition, the installation is not located in a nonattainment area for that pollutant.

NOTE: An installation can have different source class designations for different pollutants.

(5) Tables (continued)

(B) Table 2, DE MINIMUS EMISSION LEVELS

Pollutant	Emission Rate (tons/year)
Carbon monoxide	100
Nitrogen dioxide	10
Total Suspended Particulates	10
Sulfur dioxide	10
Ozone (to be measured as VOC)	10
Lead	1
Mercury	.2
Beryllium	0.004
Asbestos	1
Fluorides	0.02
Sulfuric acid mist	1
Vinyl chloride	1
Total Reduced Sulfur:	
Hydrogen sulfide	1
Methyl mercaptan	1
Dimethyl sulfide	1
Dimethyl disulfide	1
Reduced Sulfur Compounds:	
Hydrogen sulfide	(See Above)
Carbon disulfide	10
Carbonyl sulfide	10

(5) Tables (continued)

(C) Table 3 LIST OF NAMED INSTALLATIONS

1. Fossil-fuel fired steam electric plants of more than 250,000,000 British thermal units per hour heat input.
2. Coal cleaning plants (with thermal dryers)
3. Kraft pulp mills
4. Portland cement plants
5. Primary zinc smelters
6. Iron and steel mills
7. Primary aluminum ore reduction plants
8. Primary copper smelters
9. Municipal incinerators capable of charging more than 250 tons of refuse per day
10. Hydrofluoric acid plants
11. Sulfuric acid plants
12. Nitric acid plants
13. Petroleum refineries
14. Lime plants
15. Phosphate rock processing plants
16. Coke oven batteries
17. Sulfur recovery plants
18. Carbon black plants (furnace process)
19. Primary lead smelters
20. Fuel conversion plants
21. Sintering plants
22. Secondary metal production facilities
23. Chemical process plants
24. Fossil-fuel boilers (or combination thereof) of more than 250,000,000 British thermal units per hour heat input
25. Petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels
26. Taconite ore processing facilities
27. Glass fiber processing plants
28. Charcoal production facilities

(5) Tables (continued)

(D) Table 4 Fee Structure

Source Description	Fee
Incinerators	$25
Rock quarries, concrete batch plants, and asphalt plants	$100
All other installations which fall under source Class B of Subsection (5)(A), Table 1	$110/source operation
All other installations which do not fall under source Class A or B of Subsection (5) (A), Table 1	$50 plus $130/source operation
An additional fee of $75 is to be levied if the installation is to be located in a nonattainment area.	

NOTE: In cases where more than one fee could apply, the higher permit fee will be assessed.

(5) Tables (continued)

(E) Table 5 PERMIT REVIEW SCHEDULE

Day	Major Source Type Review	Minor Source Type Review
0	Receipt of Complete Application	Receipt of Complete Application
30	Director's Notice of Deficiencies and Amount of Fees	Director's Notice of Deficiencies and Amount of Fees
60	Receipt of Fees	Receipt of Fees
90	Preliminary Review Determination	Final Review Determination
100	1st Public Comment Notice	
107	2nd Public Comment Notice and Begin 30-Day Comment Period	
137	End Public Comment Period	
147	Notice of Hearing	
167	Earliest Hearing Date	
177	Last Possible Hearing Date	
184	Final Review Determination	

(5) Tables (continued)

(F) Table 6 Increment Table

Pollutant	Maximum allowable increase (micrograms/cubic meter)
CLASS I	
Particulate matter:	
Annual geometric mean..................	5
24-hour maximum........................	10
Sulfur dioxide:	
Annual arithmetic mean.................	2
24-hour maximum........................	5
3-hour maximum.........................	25
CLASS II	
Particulate matter:	
Annual geometric mean..................	19
24-hour maximum........................	37
Sulfur dioxide:	
Annual arithmetic mean.................	20
24-hour maximum........................	91
3-hour maximum.........................	612
CLASS III	
Particulate matter:	
Annual geometric mean..................	37
24-hour maximum........................	75

(5) Tables (continued)

(F) Table 6 (con't) Increment Table

Pollutant	Maximum allowable increase (micrograms/cubic meter)
CLASS III	
Sulfur dioxide:	
Annual arithmetic mean.................	40
24-hour maximum........................	182
3-hour maximum.........................	700

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(5) Tables (continued)

(G) Table 7, De Minimis Ambient Air Quality Impacts

Pollutant	Air Quality Impact
Carbon monoxide	500 ug/m^3, 8-hour average
Nitrogen dioxide	1 ug/m^3, annual
Total suspended particulates	5 ug/m^3, 24-hour
Sulfur dioxide	5 ug/m^3, 24-hour
Ozone	*
Lead	.03 ug/m^3, 3 month
Mercury	0.1 ug/m^3, 24-hour
Beryllium	.005 ug/m^3, 24-hour
Asbestos	1 ug/m^3, 1-hour
Fluorides	.01 ug/m^3, 24-hour
Sulfuric acid mist	1 ug/m^3, 24-hour
Vinyl chloride	1 ug/m^3, maximum value
Total reduce sulfur:	
Hydrogen sulfide	1 ug/m^3, 1-hour
Methyl mercaptan	.5 ug/m^3, 1-hour
Dimethyl sulfide	.5 ug/m^3, 1-hour
Dimethyl disulfide	2 ug/m^3, 1-hour
Reduce sulfur compounds:	
Hydrogen sulfide	1 ug/m^3, 1-hour
Carbon disulfide	200 ug/m^3, 1-hour
Carbonyl sulfide	200 ug/m^3, 1-hour

*No de minimis air quality level is proposed for ozone. However, any potential net increase of 100 tons per year of volatile organic compounds subject to Prevention of Significant Deterioration (PSD) would be required to perform an ambient impact analysis, including the gathering of ambient air quality data.

(6) Appendixes

(A) Appendix A, Public Participation

1. Within 184 days after receipt of a complete application, the Director shall make a final determination on the application. This involves performing the following actions in a timely manner:

A. Within 90 days after receipt of a complete application, make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.

B. No later than 10 days after the close of the preliminary review period, cause a notice to be published once each week on the same day of the week for two consecutive weeks in a newspaper of general circulation within the county in which the project is proposed to be constructed or operated. The public notice shall describe the nature of the application including, with reasonable specificity, the following: name, address phone number, and representative of the agency issuing the public notice; name and address of the applicant; the proposed project including its location; and permits applied for. The notice shall state that members of the public may present relevant views and supporting materials in writing to the Director in relation to any of the permits applied for within 30 days after the last date of publication of the notice in a newspaper. (This 30 day period for public comment may be reduced to 20 days at the discretion of the Director for reasons of public interest). The notice shall also invite requests for a public hearing for comments from concerned persons. It shall further state that a copy of all materials the applicant submitted, a copy of the preliminary determination and a copy or summary of other materials, if any, considered in making a preliminary determination are available for public inspection at the Department of Natural Resources' Regional Office in the region in which the proposed installation or major modification would be constructed, as well as at the Jefferson City, Central Office of the Air Pollution Control Program.

C. After the close of the preliminary review period, but no later than the date of first public comment notice in a newspaper, the Director shall make available to the public, until the end of the public comment period, at the Regional Office in the region in which the proposed installation or major modification would be constructed, as well as in the Air Pollution Control Program Office in Jefferson City, a copy of the preliminary determination and a copy or summary of other materials, if any, considered in making the preliminary determination.

D. The Director shall consider all requests, if any, for a public hearing. The applicant, any affected government agency, or any interested person or group of persons may request a public hearing with respect to an application. Any such request for public hearing shall be filed prior to expiration of the public comment period prescribed in subparagraph (6)(A)1.B. If, at any time, or after taking into consideration opportunities for members of the public interest so requires, the Director shall hold a public hearing relative to the proposed project. At any public hearing, the applicant may submit any relevant information and material in support of his applications, and members of the public may present relevant views and supporting materials in relation to any or all of the permits being applied for. If public notice of any hearing is made subsequent to the notice provided for in subparagraph (6)(A) 1.B., said notice shall be given no later than 10 days after the close of the public comment period. The notice of hearing shall follow the procedures of subparagraph (6)(A) 1.B. and include, in addition to information required in subparagraph (6)(A) 1.B. the following: location of the public hearing (in the county in which all or a major part of the proposed project is to be constructed or operated); and time of public hearing (to be held not less than 20 days nor more than 30 days after the date of last publication of the notice of hearing].

E. Within 10 days after the close of the preliminary review period, the Director shall send a copy of the (public comment notice) to the applicant and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: local air pollution control agencies, the chief executives of the city and county where the installation or modification would be located, any comprehensive regional land use planning agency and any State or Federal Land Manager whose lands may be affected by emissions from the installation or modification.

F. The Director shall consider all written comments submitted within a time specified in the public comment notice and all comments received at any public hearing(s) in making a final decision on the approvability of the application. No later than 10 days after the close of the public comment period, the applicant may submit a written response to any comments submitted by the public. The Director shall consider the applicant's response in making a final decision. The Director shall make all comments available for public inspection in the same locations where the Director made available preconstruction information relating to the proposed installation or modification.

G. The Director shall make a final determination whether construction should be approved, approved with conditions, or disapproved pursuant to this rule and notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the Director made available preconstruction information and public comments relating to the source or modification.

(6) Appendixes (continued)

(B) Appendix B, Source Class D Area Approach

1. Area Classification

A. The following areas which were in existence on August 7, 1977, shall be Class I areas and may not be redesignated:

(I) International parks,

(II) National wilderness areas which exceed 5,000 acres in size,

(III) National memorial parks which exceed 5,000 acres in size, and

(IV) National parks which exceed 6,000 acres in size.

B. Areas which were redesignated as Class I under U.S. Environmental Protection Agnecy regulations promulgated before August 7, 1977, shall remain Class I, but may be redesignated as provided in this section.

C. Any other area, unless otherwise specified in the legislation creating such an area, is initially designated Class II, but may be redesignated as provided in this section.

D. The following areas may be redesignated only as Class I or II;

(I) An area which as of August 7, 1977, exceeded 10,000 acres in size and was a national monument, a national primitive area, a national preserve, a national recreational area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore; and

(II) A national park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres in size.

2. Redesignation

A. All areas (except as otherwise provided under Paragraph (6)(B)1. are designated Class II as of December 5, 1974. Redesignation (except as precluded by Paragraph (6)(B)1.) may be proposed by the Commission as provided below, subject to approval by the Administrator.

B. The Commission may submit to the Administrator a proposal to redesignate areas of the State as Class I or Class II provided that:

(I) At least one public hearing has been held in accordance with procedures established in RSMo 203.070 and 203.100;

(II) Other States and Federal Land Managers whose lands may be affected by the proposed redesignation were notified at least 30 days prior to the public hearing;

(III) A discussion of the reasons for the proposed redesignation, including a satisfactory description and analysis of the health, environmental, economic, social, and energy effects of the proposed redesignation, was prepared and made available for public inspection at least 30 days prior to the hearing and the notice announcing the hearing contained appropriate notification of the availability of such discussion;

(IV) Prior to the issuance of notice respecting the redesignation of an area that includes any Federal lands, the Commission has provided written notice to the appropriate Federal Land Manager and afforded adequate opportunity (not in excess of 60 days) to confer with the Commission respecting the redesignation and to submit written comments and recommendations. In redesignating any area with respect to which any Federal Land Manager had submitted written comments and recommendations, the Commission shall have published a list of any inconsistency between such redesignation and such comments and recommendations (together with the reasons for making such redesignation against the recommendation of the Federal Land Manager); and

(V) The Commission has proposed the redesignation after consultation with the elected leadership of local and other substate general purpose governments in the area covered by the proposed redesignation.

C. Any area other than an area to which Paragraph (6)(B)1. refers may be redesignated Class III if:

(I) The redesignation would meet the requirements of provisions established in accordance with Subparagraph (6)(B)2.B.;

(II) The redesignation has been approved by the Commission and Governor, and if general purpose units of local government representing a majority of the residents of the area to be redesignated adopt resolutions concurring in the redesignation;

(III) The redesignation would not cause, or contribute to, a concentration of any air pollutant which would exceed any maximum allowable increase permitted under the classification of any other area or any national ambient air quality standard; and

(IV) Any permit application for any installation and major modification subject to provisions established in accordance with Subparagraph (6)(B)2.A. which could receive a permit only if the area in question were redesignated as Class III, and any material submitted as part of that application, were available, insofar as was practicable, for public inspection prior to any public hearing on redesignation of any area as Class III.

D. Area Class Designations as of January 1, 1980.

Area Class	Description
Class I	Hercules Glade National Wilderness Area Mingo National Wilderness Area
Class II	All areas of the state other than those identified in "Growth Increments and Non-Attainment Areas for the State of Missouri", January 1, 1980
Class III	No areas designated.

AUTHORITY: Section 203.050, RSMo (1957)

NOTICE OF PUBLIC HEARING: A public hearing on the proposed amendments is scheduled for February 27, 1980 at 9:00 a.m. at the Hilton Plaza Inn, One East Forty-Fifth Street, Kansas City, MO. 64111. For additional information, or submission of comments in favor of or in opposition to this proposed rule, contact Robert J. Schreiber, Jr., Staff Director, Air Pollution Control Program, Division of Environmental Quality, Department of Natural Resources, P.O. Box 1368, Jefferson City, MO 65102. Telephone 314-751-3241.